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The Code of Federal Regulations is sold by the Superintendent of Documents. Prices of new books are listed in the first FEDERAL REGISTER issue of each week.

DEPARTMENT OF AGRICULTURE

Food and Nutrition Service

7 CFR Parts 272 and 273

[Amdt. No. 300]

Food Stamp Program; Prerelease Applications from Residents of Institutions

AGENCY: Food and Nutrition Service, USDA.

ACTION: Final rule.

SUMMARY: This rule finalizes the proposed rule published on October 14, 1987 and will implement a provision of the Anti-Drug Abuse Act of 1986 (Pub. L. 99–570, enacted on October 27, 1986). The provision allows certain individuals in public institutions applying for Supplemental Security Income (SSI) the opportunity to also apply for Food Stamp Program benefits by completing a single application for SSI and food stamps before they are released from institutions.

EFFECTIVE DATE: This final action is effective March 1, 1989, and is to be implemented no later than May 1, 1989.

FOR FURTHER INFORMATION CONTACT: Questions regarding this rulemaking should be addressed to Judith M. Seymour, Certification Rulemaking Section, Eligibility and Monitoring Branch, Program Development Division, Food Stamp Program, Food and Nutrition Service, 3101 Park Center Drive, Alexandria, Virginia 22302, or by telephone at (703) 756–3429.

SUPPLEMENTARY INFORMATION:

Classification

Executive Order 12291 and Secretary's Memorandum 1512–1

This final action has been reviewed under Executive Order 12291 and Secretary's Memorandum No. 1512–1 and has been classified as non-major. The rule will not result in an annual economic impact of more than $100 million or major increases in costs or prices, nor will it have a significant adverse effect on competition, employment, productivity, investment, or foreign trade. Further, the rule is unrelated to the ability of United States-based enterprises to compete with foreign-based enterprises in domestic or export markets.

Executive Order 12372

The Food Stamp Program is listed in the Catalog of Federal Domestic Assistance under No. 10.551. For the reasons set forth in the final rule and related Notice to 7 CFR Part 3015, Subpart V (48 FR 29115), this program is excluded from the scope of Executive Order 12372 which requires intergovernmental consultation with State and local officials.

Regulatory Flexibility Act

This final rule has also been reviewed with regard to the requirements of the Regulatory Flexibility Act of 1980 (Pub. L. 96–354, Stat. 1164 September 19, 1980). Anna Kondratas, Administrator of the Food and Nutrition Service, has certified that this action does not have a significant economic impact on a substantial number of small entities. This action would affect certain individuals in public institutions and the State and local agencies which administer the Food Stamp Program.

Paperwork Reduction Act

This rulemaking does not contain reporting or recordkeeping requirements subject to approval by the Office of Management and Budget (OMB) under the Paperwork Reduction Act of 1980 (44 U.S.C. 3507).

Background

On October 14, 1987 the Department published a proposed rule at 52 FR 38104 to change Food Stamp Program regulations to reflect section 11006 of the Anti-Drug Abuse Act of 1986. Section 11006 of that Act amends section 1631 of the Social Security Act (42 U.S.C. 1383) to require the Secretaries of the Department of Health and Human Services and the Department of Agriculture to develop a procedure under which an individual, scheduled for release from a public institution, who applies for SSI benefits will also be permitted to apply for participation in the Food Stamp Program prior to the discharge or release from the institution by executing a single application. In May 1987, the Social Security Administration (SSA) issued national instructions in the Program Operations Manual System Transmittal No. 14 SI 01801 instructing SSI staff how to handle prerelease applicants. In addition, SSI instructed its field offices to inform institutions of the prerelease program. When a public institution has entered into an agreement with SSA for the prerelease program, then applicants can apply for SSI and food stamps together.

While SSA implemented section 11006 of Pub. L. 99–570 in May 1987, it was necessary to propose changes to the Food Stamp Program regulations since the time between an institutionalized individual's application for food stamps made prior to release and his/her subsequent release from the institution could be significantly longer than the 30-day application processing time allowed under section 11(e)(3) of the Food Stamp Act. To address this problem the October 14, 1987 rule proposed defining the date of application for an institutionalized individual as the date of the individual's release from the institution. The Department accepted comments on the proposed rulemaking through December 14, 1987. Sixteen letters were received which addressed the provision of the proposed rule. The major concerns raised by the commenters are discussed below. Comments which are unclear, technical in nature, or which address issues not related to the final rulemaking process are not discussed. An explanation of the rationale of the rule is contained in the preamble of the proposed rule. For a full understanding of the provisions of this final rule the reader should refer to the preamble of the proposed rule.

Application Processing Procedures

Under the proposed rule residents of public institutions who apply for SSI prior to their release from the institution under SSA's Prerelease Program for the Institutionalized would be permitted to apply for food stamps at the same time they apply for SSI. SSA would then forward such applications to the local office of the food stamp State agency. Applications would be processed in accordance with the normal (30-day) application processing standard of 7

CFR 273.2(g) or the expedited service (5-day) standard of 7 CFR 273.2(i) as appropriate. For determining application processing time frames, under the proposed rule the date of application for prerelease applicants was defined as the date of release of the individual from the institution.

While the majority of commenters supported the proposal to define the date of application as the date the applicant is released from the institution, some commenters suggested that the date of application should be defined as the date the State agency receives notification of the applicant's release. One commenter expressed the belief that the application date should be the later of the applicant's release from the institution or the date the State agency receives notification of the applicant's release. The Department has elected to retain the date of release as the date of application for institutionalized applicants. The Department believes that defining the date of application as suggested by the commenters could result in a delay in processing the application since notice to the State agency could be delayed long after release. This would be inconsistent with the intent of the legislation, which is to ensure that prerelease applicants receive assistance upon release or as soon as possible thereafter.

One commenter suggested that the Department provide a specific time frame for timely notification of State agencies by SSA, or as an alternative, that SSA agree to a written standard for timely notification. Another commenter, expressing the belief that processing time frames (including the time frames for expedited service) should begin when the applicant notifies the correct certification office of his or her release, suggested placing responsibility for notification on the applicant. The Department has elected not to include a specific time frame for notification of the State agency in this rule and has also elected not to place the burden of notification on the applicant since SSA has advised the Department that its field offices will notify the local office of the food stamp State agency of the impending release of the applicant from the institution. This procedure will ensure that the State agency will know when to process the application and issue food stamp benefits. This notification will occur before the applicant is released and thus will result in more rapid processing than if the applicant notified SSA after release. To further assist the applicant, SSA staff has indicated that SSA, in addition to notifying the State agency of the release, will provide the applicant with a referral listing the proper food stamp office address and telephone number.

Two commenters expressed concern that the time frames provided by the proposed rule would not always ensure prompt service for needy prerelease applicants. One commenter felt that it would be an intolerable hardship for persons with little income to wait up to 30 days after release from the institution for food stamp assistance. Public Law 99–570 does not modify or otherwise amend the time within which benefits must be made available to applicants. The existing 30 day and five day expedited service provisions are applicable and should provide proper benefit delivery to prerelease applicants. Furthermore, the Department does not believe the proposed procedures would result in a hardship since, as explained in the preamble to the proposed rule, it is anticipated that most prerelease applicants will be eligible for application processing under the five-day standards for expedited service. Another commenter felt that regardless of the date of the filing of an application, an applicant who is a resident of a public institution should be given an Authorization to Participate (ATP) card on the same day that he/she is released from the institution. The Department does not feel such a requirement is feasible since all State agencies do not have the capability of issuing an ATP immediately. Also, additional information may be required to determine eligibility and benefit levels.

A few commenters wanted the rule to require SSA to hold all applications until the individuals are released. Upon release SSA would then forward the applications to the correct local office. The Department feels that following this procedure would delay the processing of the applications and has made no changes in the final rule in this area. SSA field offices anticipate completion and forwarding of the prerelease applications within one working day consistent with the time frame for completion and forwarding of the application as provided in the joint processing provisions at 7 CFR 273.2(k)(1)(i). This is a procedure to which both SSA and State agencies have become accustomed. Moreover, the Department believes that it is administratively easier to review an application, set up a case record and identify what, if any, information is required to complete the application processing for one case at a time rather than for several cases together. Handling each case separately almost certainly will result in more expeditious processing of each case when an applicant is released. One commenter stated that the State agency needs to know if an applicant's SSI application is denied. SSA has directed its field offices to notify State agencies when a prerelease application is disallowed by SSA. In addition, State agencies will be able to determine the status of SSI applications through the State Data Exchange System. Another commenter said that prerelease food stamp applications should be held in a pending status no longer than 12 months. In most cases, a determination on an SSI application will be made within 12 months. Therefore the Department believes that it is not necessary to include an express provision in Food Stamp Program rules with respect to the time period an application may be held in pending status prior to the date of application. Action on the food stamp application will automatically follow action on the SSI application.

SSI/Food Stamp Single Application

Public Law 99–570 provides that the individuals in institutions applying for SSI and food stamp benefits complete a single application for SSI and food stamps before they are released from institutions. Commenters had various comments regarding the use of the single SSI/Food Stamp Program application. The commenters expressed the belief that State agencies should have the option of continued use of their current combined form or of a form which meets State agencies' individual needs. There are no changes in this area in the final rule. The Department has no discretion with respect to the single form since Pub. L. 99–570 mandates that SSA develop a single application. SSA and FNS are currently in the process of developing a single application which will contain all of the information needed to determine eligibility for both programs. Until development of the single application is completed and the form is distributed to SSA offices, the current application processing procedures of 7 CFR 273.2(k) will remain in effect.

Several commenters asked that the rule specify that the application information reflect the applicant's post-release circumstances so that the State agency has sufficient information to determine eligibility. These commenters were concerned that there might not be sufficient information on the application form completed prior to release. While the Department understands this concern, it does not believe it is possible

to require SSA to include all information necessary to determine eligibility since all the information may not be known at the time SSI staff takes the application. The State agency should obtain whatever additional information is available from SSA at the time of release or if necessary contact the applicant/institution to obtain needed information. For example, the Department expects that information as to the applicant's address and living expenses will almost always not be known at the time of the interview in the institution. Since this is an area which the State agencies will have to handle on a case-by-case basis, no requirements on how to handle it have been included in this final rule.

Miscellaneous Comments

Several commenters were concerned that the proposed rule failed to define the term "public institution". These commenters felt that a definition of the individuals and institutions affected by this rulemaking should be included. The Department has not included a definition in this final rule. Since the Prerelease Program for the Institutionalized is administered by the Social Security Administration and the initial phase of the application process will be conducted by SSI personnel, it is SSA's definition of "public institution" which is relevant. The definition of "public institution" used by SSA (see 20 CFR 416.201) is very broad, based on that agency's interpretation of the applicable statute and legislative history. A Food Stamp State agency which has questions on whether residents from a particular type of public institution are subject to the provisions of this rule should contact the Social Security Field Office that services its area.

One commenter wanted the Department to indicate in the final rule that "cashout" States are exempt from these rules.

Current Food Stamp Program regulations at 7 CFR 273.2(b)(2)(iii) and 273.20 state that no individual who receives SSI benefits and resides in the States of California or Wisconsin is eligible to receive food stamp benefits. SSI payments in these States have been specifically increased to include the value of the food stamp allotment. Instructions issued by SSA for implementing the prerelease process also state that individuals in cashout States are ineligible for food stamps. The Department feels that it would be unnecessary to restate in this rule the prohibition against receipt of food stamp benefits by SSI recipients in cashout States since the prohibition is currently stated in the regulations governing the Food Stamp Program, and SSA and food stamp staff administering the provisions of the rule are already aware of the prohibition.

One commenter brought to the Department's attention that under the provision of 7 CFR 273.10(a)(1) State agencies have the option to use either calendar months or fiscal months to determine the eligibility and benefit levels of program applicants in general. To eliminate the inconsistency between procedures for prerelease applicants and applicants in general, the Department in this final rule, has deleted the word "calendar" from the new provisions at 7 CFR 273.10(a)(1)(i) regarding prerelease applicants.

Implementation

In the October 14, 1987 proposed rule, the Department proposed that State agencies implement the rule on the first day of the first month which begins 30 days after publication of the final rule.

The Department received two coments on the time frame proposed for implementing this rule. The commenters felt that the 30-day time frame was inadequate and that an implementation date of 90 days was needed to implement regulations. One commenter stated that a 90-day implementation period is necessary to complete the notice and comment requirements mandated by its State Administrative Procedures Act. The other commenter stated that additional time is needed to modify State automated systems and to communicate new policies to certification staff. After considering the commenters' concerns, the Department has changed the implementation time frame to 90 days. Prerelease applicants will not be adversely affected by this change since SSA is currently accepting and forwarding prerelease applications to food stamp State agencies and this rule simply streamlines application processing procedures. Therefore, the provisions of this rule will be implemented by State agencies on the first day of the first month which begins 90 days after the publication of this final rule.

Another commenter stated that SSA should delay sending prerelease applications until the State agency had implemented the final regulations. This is now a moot point. The provisions of Pub. L. 99-570 regarding prerelease applications were effective upon enactment and thus required implementation prior to the publication of this final rule. As explained earlier in this preamble, SSA and food stamp State agencies are currently accepting applications from prerelease applicants under interim procedures developed by local SSI offices and food stamp State agencies.

List of Subjects

7 CFR Part 272

Alaska, Civil rights, Food stamps, Grant programs-social programs, Reporting and recordkeeping requirements.

7 CFR Part 273

Administrative practice and procedure, Aliens, Claims, Food stamps, Fraud, Grant programs-social programs, Penalties, Reporting and recordkeeping requirements, Social Security, Students.

Accordingly, 7 CFR Parts 272 and 273 are amended as follows:

1. The authority citation for Parts 272 and 273 continues to read as follows:

Authority: 7 U.S.C. 2011-2029.

PART 272—REQUIREMENTS FOR PARTICIPATING STATE AGENCIES

2. In § 272.1, a new paragraph (g)(104) is added to read as follows:

* * * * *

§ 272.1 General terms and conditions.

(g) *Implementation.* * * *

(104) *Amendment No. 300.* State agencies shall implement the requirements of this rulemaking no later than May 1, 1989.

PART 273—CERTIFICATION OF ELIGIBLE HOUSEHOLDS

3. In § 273.1, paragraphs (e) (1) through (5) are redesignated as paragraphs (e)(1) (i) through (v), the introductory text of paragraph (e) is redesignated as paragraph (e)(1), and a new paragraph (e)(2) is added to read as follows:

§ 273.1 Household concept.

* * * * *

(e) *Residents of institutions.* * * *

(2) Residents of public institutions who apply for SSI prior to their release from an institution under the Social Security Administration's Prerelease Program for the Institutionalized (42 U.S.C. 1383 (j)) shall be permitted to apply for food stamps at the same time they apply for SSI. These prerelease applicants shall be processed in accordance with the provisions in § 273.2(c), (g), (i), (j), and (k), § 273.10(a) and § 273.11(i), as appropriate.

* * * * *

4. In § 273.2:

a. The second sentence of paragraph (c)(1) is revised, a new sentence is added between the second and third

sentences, and a new sentence is added at the end of (c)(1).

b. The first sentence of paragraph (g)(1) is revised and a new sentence is added at the end of the paragraph.

c. A new sentence is added to paragraph (i)(3)(i) between the first and second sentences.

d. The eleventh sentence of paragraph (j)(1)(iv) is revised, and a new sentence added between the eleventh and twelfth sentences.

e. Two new sentences are added to paragraph (j)(2)(i) between the first and second sentences.

f. Paragraphs (k)(1)(i)(D) through (k)(1)(i)(O) are redesignated as paragraphs (k)(1)(i)(E) through (P), respectively and a new paragraph (k)(1)(i)(D) is added.

g. The first sentence of newly redesignated paragraph (k)(1)(i)(F) is revised, and four new sentences are added between the third and fourth sentences.

h. A new sentence is added to the end of newly redesignated paragraph (k)(1)(i)(I).

i. The second sentence of newly redesignated paragraph (k)(1)(i)(J) is amended by adding the words "unless the applicant is a resident of a public institution as described in § 273.1(e)(2)." to the end of the sentence.

The revisions and additions read as follows:

§ 273.2 Application processing.

* * * * *

(c) *Filing an application.*

(1) *Houshold's right to file.* * * * The length of time a State agency has to deliver benefits is calculated from the date the application is filed in the food stamp office designated by the State agency to accept the household's application, except when a resident of a public institution is jointly applying for SSI and food stamps prior to his/her release from an institution in accordance with § 273.1(e)(2). Residents of public institutions who apply for foods stamps prior to their release from the institution shall be certified in accordance with § 273.2(g)(1) or § 273.2(i)(3)(i), as appropriate. * * * When a resident of an institution is jointly applying for SSI and food stamps prior to leaving the institution, the filing date of the application to be recorded by the State agency on the application is the date of release of the applicant from the institution.

* * * * *

(g) *Normal processing standard—(1) Thirty day processing.* The State agency shall provide eligible households that complete the initial application process an opportunity to participate as soon as possible, but no later than 30 calendar days following the date the application was filed, except for residents of public institutions who apply jointly for SSI and food stamp benefits prior to release from the institution in accordance with § 273.1(e)(2). * * * For residents of public institutions who apply for food stamps prior to their release from the institution in accordance with § 273.1(e)(2), the State agency shall provide an opportunity to participate as soon as possible, but not later than 30 calendar days from the date of release of the applicant from the institution.

* * * * *

(i) *Expedited Service.* * * *

(3) *Processing standards.* * * *

(i) *General.* * * * For a resident of a public institution who applies for benefits prior to his/her release from the institution in accordance with § 273.1(e)(2) and who is entitled to expedited service, the date of filing of his/her application is the date of release of the applicant from the institution. * * *

* * * * *

(j) *PA, GA and categorically eligible households.* * * *

(1) *Applicant PA households.* * * *

(iv) * * * Except for residents of public institutions who apply jointly for SSI and food stamp benefits prior to their release from a public institution in accordance with § 273.1(e)(2), benefits shall be paid from the beginning of the period for which PA or SSI benefits are paid, the original food stamp application date, or December 23, 1985 whichever is later. Residents of public institutions who apply jointly for SSI and food stamp benefits prior to their release from the institution shall be paid benefits from the date of their release from the institution. * * *

(2) *Categorically eligible households.*

(i) * * * Residents of public institutions who apply jointly for SSI and food stamp benefits prior to their release from the institution in accordance with § 273.1(e)(2), shall not be categorically eligible upon a finding by SSA of potential SSI eligibility prior to such release. These individuals shall be considered categorically eligible at such time as a final SSI eligibility determination has been made and the individual has been released from the institution. * * *

* * * * *

(k) *SSI households.* * * *

(1) *Initial application and eligibility determination.* * * *

(i) * * *

(D) The SSA staff shall complete joint SSI and food stamp applications for residents of public institutions in accordance with § 273.1(e)(2). For such applicants, the SSA staff shall use a joint SSI and food stamp application prescribed by both FNS and SSA.

* * * * *

(F) Except for applications taken in accordance with paragraph (k)(1)(i)(D) of this section, the State agency shall make an eligibility determination and issue food stamp benefits to eligible SSI households within 30 days following the date the application was received by the SSA. * * * The State agency shall make an eligibility determination and issue food stamp benefits to a resident of a public institution who applies jointly for SSI and food stamps within 30 days following the date of the applicant's release from the institution. Expedited processing time standards for an applicant who has applied for food stamps and SSI prior to release shall also begin on the date of the applicant's release from the institution in accordance with § 273.2(i)(3)(i). SSA shall notify the State agency of the date of release of the applicant from the institution. If, for any reason, the State agency is not notified on a timely basis of the applicant's release date, the State agency shall restore benefits in accordance with § 273.17 to such applicant back to the date of release. * * *

* * * * *

(I) * * * This provision does not apply to applications described in paragraph (k)(1)(i)(D) of this section.

* * * * *

5. In § 273.10:

a. A new sentence is added to the end of paragraph (a)(1)(i).

b. The first and second sentences of paragraph (a)(1)(ii) are revised.

The revisions and additions read as follows:

§ 273.10 Determining household eligibility and benefit levels.

(a) *Months of application—(1) Determination of eligibility and benefit levels.* * * *

(i) * * * Applicant households consisting of residents of a public institution who apply jointly for SSI and food stamps prior to release from the public institution in accordance with § 273.1(e)(2) will have their eligibility determined for the month in which the applicant household was released from the institution.

(ii) A household's benefit level for the initial months of certification shall be based on the day of the month it applies for benefits and the household shall receive benefits from the date of application to the end of the month

unless the applicant household consists of residents of a public institution. For households which apply for SSI prior to their release from a public institution in accordance with § 273.1(e)(2), the benefit level for the initial month of certification shall be based on the date of the month the household is released from the institution and the household shall receive benefits from the date of the household's release from the institution to the end of the month. * * *

* * * * *

6. In § 273.11, paragraph (i), (j) and (k) are redesignated as paragraphs (j), (k) and (l), respectively and a new paragraph (i) is added to read as follows:

§ 273.11 Action on households with special circumstances.

* * * * *

(i) *Prerelease applicants.* A household which consists of a resident or residents of a public institution(s) which applies for SSI under SSA's Prerelease Program for the Institutionalized shall be allowed to apply for food stamp benefits jointly with their application for SSI prior to their release from the institution. Such households shall be certified in accordance with the provisions of § 273.1(e), § 273.2(c), (g), (i), (j) and (k), and § 273.10(a), as appropriate.

* * * * *

Anna Kondratas,

Administrator.

Date: January 19, 1989.

[FR Doc. 89-2068 Filed 1-27-89; 8:45 am]

BILLING CODE 3410-30-M

Agricultural Marketing Service

7 CFR Part 907

[Navel Orange Reg. 685]

Navel Oranges Grown in Arizona and Designated Part of California; Limitation of Handling

AGENCY: Agricultural Marketing Service, USDA.

ACTION: Final rule.

SUMMARY: Regulation 685 establishes the quantity of California-Arizona navel oranges that may be shipped to market during the period January 27 through February 2, 1989. Such action is needed to balance the supply of fresh navel oranges with the demand for such oranges during the period specified due to the marketing situation confronting the orange industry.

DATES: Regulation 685 (§ 907.985) is effective for the period January 27, 1989, through February 2, 1989.

FOR FURTHER INFORMATION CONTACT: Jacquelyn R. Schlatter, Marketing Specialist, Marketing Order Administration Branch, F&V, AMS, USDA, Room 2528-S, P.O. Box 96456, Washington, DC 20090-6456; telephone: (202) 447-5120.

SUPPLEMENTARY INFORMATION: This final rule is issued under Marketing Order 907 (7 CFR Part 907), as amended, regulating the handling of navel oranges grown in Arizona and designated part of California. This order is effective under the Agricultural Marketing Agreement Act of 1937, as amended, hereinafter referred to as the Act.

This final rule has been reviewed under Executive Order 12291 and Departmental Regulation 1512-1 and has been determined to be a "non-major" rule under criteria contained therein.

Pursuant to requirements set forth in the Regulatory Flexibility Act (RFA), the Administrator of the Agricultural Marketing Service (AMS) has considered the economic impact of the use of volume regulations on small entities as well as larger ones.

The purpose of the RFA is to fit regulatory actions to the scale of business subject to such actions in order that small businesses will not be unduly or disproportionately burdened. Marketing orders issued pursuant to the Act, and rules issued thereunder, are unique in that they are brought about through group action of essentially small entities acting on their own behalf. Thus, both statutes have small entity orientation and compatibility.

There are approximately 125 handlers of California-Arizona navel oranges subject to regulation under the navel orange marketing order, and approximately 4,065 producers in California and Arizona. Small agricultural producers have been defined by the Small Business Administration (13 CFR 121.2) as those having annual gross revenues for the last three years of less than $500,000, and small agricultural service firms are defined as those whose gross annual receipts are less than $3,500,000. The majority of handlers and producers of California-Arizona navel oranges may be classified as small entities.

This action is consistent with the marketing policy for 1988-89 adopted by the Navel Orange Administrative Committee (Committee). The Committee met publicly on January 24, 1989, in Visalia, California, to consider the current and prospective conditions of supply and demand and recommended by a 10 to 1 vote, a quantity of navel oranges deemed advisable to be handled during the specified week. The Committee reports that the demand for navel oranges is fair.

Based on consideration of supply and market conditions, and the evaluation of alternatives to the implementation of prorate regulations, the Administrator of the AMS has determined that this final rule will not have a significant economic impact on a substantial number of small entities.

Pursuant to 5 U.S.C. 553, it is further found that it is impracticable, unnecessary, and contrary to the public interest to give preliminary notice and engage in further public procedure with respect to this action and that good cause exists for not postponing the effective date of this action until 30 days after publication in the **Federal Register** because of insufficient time between the date when information became available upon which this regulation is based and the effective date necessary to effectuate the declared policy of the Act. Interested persons were given an opportunity to submit information and views on the regulation at an open meeting. To effectuate the declared purposes of the Act, it is necessary to make this regulatory provision effective as specified, and handlers have been apprised of such provision and the effective time.

List of Subjects in 7 CFR Part 907

Arizona, California, Marketing agreements and orders, Navel, Oranges.

For the reasons set forth in the preamble, 7 CFR Part 907 is amended as follows:

PART 907—NAVEL ORANGES GROWN IN ARIZONA AND DESIGNATED PART OF CALIFORNIA

1. The authority citation for 7 CFR Part 907 continues to read as follows:

Authority: Secs. 1-19, 48 Stat. 31, as amended; 7 U.S.C. 601-674.

2. Section 907.985 is added to read as follows:

Note.—This section will not appear in the Code of Federal Regulations.

§ 907.985 Navel Orange Regulation 685.

The quantity of navel oranges grown in California and Arizona which may be handled during the period January 27, 1989, through February 2, 1989, are established as follows:

(a) District 1: 1,479,000 cartons;

(b) District 2: 221,000 cartons;

(c) District 3: unlimited cartons;

(d) District 4: unlimited cartons.

Dated: January 25, 1989.

Charles R. Brader,

Director, Fruit and Vegetable Division.

[FR Doc. 89-2072 Filed 1-26-89; 8:45 am]

BILLING CODE 3410-02-M

7 CFR Part 910

[Lemon Reg. 650]

Lemons Grown in California and Arizona; Limitation of Handling

AGENCY: Agricultural Marketing Service, USDA.

ACTION: Final rule.

SUMMARY: Regulation 650 establishes the quantity of fresh California-Arizona lemons that may be shipped to market at 225,000 cartons during the period January 29 through February 4, 1989. Such action is needed to balance the supply of fresh lemons with market demand for the period specified, due to the marketing situation confronting the lemon industry.

DATES: Regulation 650 (§ 910.950) is effective for the period January 29 through February 4, 1989.

FOR FURTHER INFORMATION CONTACT: Beatriz Rodriguez, Marketing Specialist, Marketing Order Administration Branch, F&V, AMS, USDA, Room 2523, South Building, P.O. Box 96456, Washington, DC 20090-6456; telephone: (202) 447-5697.

SUPPLEMENTARY INFORMATION: This final rule has been reviewed under Executive Order 12291 and Departmental Regulation 1512-1 and has been determined to be a "non-major" rule under criteria contained therein.

Pursuant to requirements set forth in the Regulatory Flexibility Act (RFA), the Administrator of the Agricultural Marketing Service has determined that this action will not have a significant economic impact on a substantial number of small entities.

The purpose of the RFA is to fit regulatory action to the scale of business subject to such actions in order that small businesses will not be unduly or disproportionately burdened. Marketing orders issued pursuant to the Agricultural Marketing Agreement Act, and rules issued thereunder, are unique in that they are brought about through group action of essentially small entities acting on their own behalf. Thus, both statutes have small entity orientation and compatibility.

There are approximately 85 handlers of lemons grown in California and Arizona subject to regulation under the lemon marketing order and approximately 2500 producers in the regulated area. Small agricultural producers have been defined by the Small Business Administration (13 CFR 121.2) as those having annual gross revenues for the last three years of less than $500,000, and small agricultural service firms are defined as those whose gross annual receipts are less than $3,500,000. The majority of handlers and producers of California-Arizona lemons may be classified as small entities.

This regulation is issued under Marketing Order No. 910, as amended (7 CFR Part 910) regulating the handling of lemons grown in California and Arizona. The order is effective under the Agricultural Marketing Agreement Act (the "Act," 7 U.S.C. 601-674), as amended. This action is based upon the recommendation and information submitted by the Lemon Administrative Committee (Committee) and upon other available information. It is found that this action will tend to effectuate the declared policy of the Act.

This regulation is consistent with the marketing policy for 1988-89. The Committee met publicly on January 24, 1989, in Los Angeles, California, to consider the current and prospective conditions of supply and demand and unanimously recommended a quantity of lemons deemed advisable to be handled during the specified week. The Committee reports that demand for lemons is fair.

Pursuant to 5 U.S.C. 553, it is further found that it is impracticable, unnecessary, and contrary to the public interest to give preliminary notice and engage in further public procedure with respect to this action and that good cause exists for not postponing the effective date of this action until 30 days after publication in the **Federal Register** because of insufficient time between the date when information became available upon which this regulation is based and the effective date necessary to effectuate the declared purposes of the Act. Interested persons were given an opportunity to submit information and views on the regulation at an open meeting. It is necessary, in order to effectuate the declared purposes of the Act, to make these regulatory provisions effective as specified, and handlers have been apprised of such provisions and the effective time.

List of Subjects in 7 CFR Part 910

Marketing agreements and orders, California, Arizona, Lemons.

For the reasons set forth in the preamble, 7 CFR Part 910 is amended as follows:

PART 910—LEMONS GROWN IN CALIFORNIA AND ARIZONA

1. The authority citation for 7 CFR Part 910 continues to read as follows:

Authority: Secs. 1-19, 48 Stat. 31, as amended; 7 U.S.C. 601-674.

2. Section 910.950 is added to read as follows:

Note: This section will not appear in the Code of Federal Regulations.

§ 910.950 Lemon Regulation 650.

The quantity of lemons grown in California and Arizona which may be handled during the period January 29, 1989, through February 4, 1989, is established at 225,000 cartons.

Dated: January 25, 1989.

Charles R. Brader,

Director, Fruit and Vegetable Division.

[FR Doc. 89-2073 Filed 1-26-89; 8:45 am]

BILLING CODE 3410-02-M

FEDERAL RESERVE SYSTEM

12 CFR Parts 207, 220, 221 and 224

[Regulations G, T, U and X]

Securities Credit Transactions; List of Marginable OTC Stocks

AGENCY: Board of Governors of the Federal Reserve System.

ACTION: Final rule; determination of applicability of regulations.

SUMMARY: The List of Marginable OTC Stocks is comprised of stocks traded over-the-counter (OTC) that have been determined by the Board of Governors of the Federal Reserve System to be subject to the margin requirements under certain Federal Reserve regulations. The List is published four times a year by the Board as a guide for lenders subject to the regulations and the general public. This document sets forth additions to or deletions from the previously published List which was effective November 14, 1988, and will serve to give notice to the public about the changed status of certain stocks.

EFFECTIVE DATE: February 13, 1989.

FOR FURTHER INFORMATION CONTACT: Peggy Wolffrum, Securities Regulation Analyst, Division of Banking Supervision and Regulation, (202) 452-2781. For the hearing impaired *only*, Earnestine Hill or Dorothea Thompson, Telecommunications Device for the Deaf (TDD) (202) 452-3544, Board of Governors of the Federal Reserve System, Washington, DC 20551.

SUPPLEMENTARY INFORMATION: Set forth below are stocks representing additions to or deletions from the Board's List of Marginable OTC Stocks. This supersedes the last List which was effective November 14, 1988. Additions and deletions for that List were published at 53 FR 43678, October 28, 1988. A copy of the complete List incorporating these additions and deletions is available from the Federal Reserve Banks.

The List of Marginable OTC Stocks includes those stocks that meet the criteria in Regulations G, T and U (12 CFR Parts 207, 220 and 221, respectively). This determination also effects the applicability of Regulation X (12 CFR Part 224). These stocks have the degree of national investor interest, the depth and breadth of market, and the availability of information respecting the stock and its issuer to warrant regulation in the same fashion as exchange-traded securities. The List also includes any stock designated under an SEC rule as qualified for trading in the national market system (NMS security). Additional OTC stocks may be designated as NMS securities in the interim between the Board's quarterly publications. They will become automatically marginable at broker-dealers upon the effective date of their NMS designation. The names of these stocks are available at the Board and the Securities and Exchange Commission and will be incorporated into the Board's next quarterly List.

The requirements of 5 U.S.C. 553 with respect to notice and public participation were not followed in connection with the issuance of this amendment due to the objective character of the criteria for inclusion and continued inclusion on the List specified in 12 CFR 207.6(a) and (b), 220.17(a) and (b), and 221.7(a) and (b). No additional useful information would be gained by public participation. The full requirements of 5 U.S.C. 553 with respect to deferred effective date have not been followed in connection with the issuance of this amendment because the Board finds that it is in the public interest to facilitate investment and credit decisions based in whole or in part upon the composition of this List as soon as possible. The Board has responded to a request by the public and allowed a two-week delay before the List is effective.

List of Subjects

12 CFR Part 207

Banks, Banking, Credit, Federal Reserve System, Margin, Margin requirements, National Market System (NMS Security), Reporting and recordkeeping requirements, Securities.

12 CFR Part 220

Banks, Banking, Brokers, Credit, Federal Reserve System, Margin, Margin requirements, Investments, National Market System (NMS Security), Reporting and recordkeeping requirements, Securities.

12 CFR Part 221

Banks, Banking, Credit, Federal Reserve System, Margin, Margin requirements, National Market System (NMS Security), Reporting and recordkeeping requirements, Securities.

12 CFR Part 224

Banks, Banking, Borrowers, Credit, Federal Reserve System, Margin, Margin requirements, Reporting and recordkeeping requirements, Securities.

Accordingly, pursuant to the authority of sections 7 and 23 of the Securities Exchange Act of 1934, as amended (15 U.S.C. 78g and 78w), and in accordance with 12 CFR 207.2(k) and 207.6(c) (Regulation G), 12 CFR 220.2(s) and 220.17(c) (Regulation T), and 12 CFR 221.2(j) and 221.7(c) (Regulation U), there is set forth below a listing of deletions from and additions to the Board's List of Marginable OTC Stocks:

Deletions From List

Stocks Removed for Failing Continued Listing Requirements

Amerford International Corp.
$.05 par common
Associated Hosts, Inc.
$.10 par common
Banks of Mid-America, Inc.
$2.50 par cumulative convertible preferred
Bolt Technology Corporation
No par common
Cabot Medical Corporation
Warrants (expire 01–16–89)
Central Realty Investors, Inc.
$1.00 par common
Cermetek Microelectronics, Inc.
$.01 par common
Citipostal Inc.
$.04 par common
Classic Corporation
$.01 par common
Compuscan, Inc.
$.10 par common
Convenient Food Mart, Inc.
$.10 par common
Convergent Solutions, Inc.
Warrants (expire 05–15–92)
Develcon Electronics Ltd.
No par common
Digitext, Inc.
$.01 par common
DMI Furniture, Inc.
$.10 par common
Dyansen Corporation
Class A, warrants (expire 12–30–88)
Elexis Corporation
$.01 par common
Evergood Products Corp.
$.01 par common
First Commerce Bancshares, Inc. (Nebraska)
$1.00 par common
First Federal Savings Bank (Tennessee)
$1.00 par common
Gardenamerica Corporation
No par common
Hodgson Houses, Inc.
$.01 par common
Hosposable Products, Inc.
Class A, warrants (expire 01–07–90)
HPSC, Inc.
Warrants (expire 01–15–89)
Independent Bankshares, Inc. (Texas)
$1.25 par common
J.P.M. Industries, Inc.
Class A, no par common
Marine Petroleum Trust
$1.00 par units of beneficial interest
Mars Stores, Inc.
$.50 par common
Medmaster Systems, Inc.
$.01 par common
Meyers Parking System, Inc.
$.10 par common
Michaels, J., Inc.
$1.00 par common
Microbiological Sciences, Inc.
$.10 par common
Multi-Local Media Corporation
$.01 par common
Nahama & Weagant Energy Corp.
No par common
National Bancshares Corporation of Texas
$5.00 par common
10% convertible subordinated debentures
Old Republic International Corporation
Series F, $4.00 par convertible exchangeable preferred
Pyramid Oil Company
No par common
Realamerica Co.
$1.00 par common
Redken Laboratories, Inc.
$.50 par common
Repco Incorporated
$1.00 par common
Rockwood Holding Company
$1.00 par common
Southwest Airlines Co.
Warrants (expire 06–25–90)
Suburban Bankshares, Inc.
Class A, $.10 par common
T.R.V. Minerals Corporation
No par common
Taylor, S. Companies, Inc.
$.001 par common
Tinsley Laboratories, Inc.
No par common
Transducer Systems, Inc.
No par common
Triangle Industries Inc.
Class A, $1.00 par common
$1.00 par cumulative convertible junior preferred
Trustcorp, Inc.
Series A, $2.90 par cumulative convertible preferred
Tucker Holding Company, Inc.
$.10 par common
U.S. Shelter Corporation
$1.00 par common
Waterford Glass Group, Plc.
American Depository

Receipts representing 10 ordinary shares
Xebec
No par common

Stocks Removed For Listing On A National Securities Exchange Or Being Involved In An Acquisition

Acuson Corporation
$.001 par common
Advanced Genetic Sciences, Inc.
$.01 par common
Air Cargo Equipment Corp.
$1.00 par common
Alleco Inc.
$1.00 par common
9½% convertible subordinated debentures
Alliance Imaging Inc.
$.01 par common
American Consulting Corp., Inc.
$.01 par common
Bankvermont Corporation
$1.00 par common
Beazer PLC
American Depository Receipts
Berkshire Hathaway Inc.
$5.00 par common
Buehler International, Inc.
$.01 par common
Cable TV Industries
No par common
Canrad, Inc.
$.75 par common
Centerre Bancorporation
$10.00 par common
Citizens Financial Group, Inc.
$1.00 par common
City Savings Bank of Meriden (Connecticut)
$1.00 par common
Convergent, Inc.
$.01 par common
Cullum Companies, Inc.
$1.00 par common
Cypress Semiconductor Corp.
$.01 par common
Delta Woodside Industries, Inc.
$.01 par common
Downey Designs International, Inc.
$.01 par common
East Weymouth Savings Bank
$1.00 par common
Entertainment Publications, Inc.
No par common
Entre Computer Centers, Inc.
$.01 par common
Farmers Group, Inc.
$1.00 par common
First Federal Savings & Loan Association of Kalamazoo
$.01 par common
First NH Banks, Inc.
$1.00 par common
Golden Valley Microwave Foods, Inc.
$.01 par common
Gotaas-Larson Shipping Corp.
$1.00 par common
Graphic Packaging Corporation
$.01 par common
Groff Industries, Inc.
$.50 par common
Guaranty National Corporation
$1.00 par common
Harvard Industries, Inc.
$.10 par common
HHB Systems, Inc.
$.01 par common
Hyponex Corporation
$.10 par common
Indian Head Banks, Inc. (New Hampshire)
$5.00 par common
Intertan, Inc.
$1.00 par common
Kimmins Corporation
$.01 par common
London House, Inc.
$.10 par common
Longview Fibre Company
$7.50 par common
Magma Copper Company
Class B, $.01 par common
Metropolitan Consolidated Industries, Inc.
$.10 par common
Minstar, Inc.
$.10 par common
Morgan, Olmstead, Kennedy & Gardner Capital Corporation
$.01 par common
National City Corporation
$4.00 par common
Nevada National Bancorporation
$.66⅔ par common
Orion Research Inc.
$.10 par common
Regis Corporation
$.05 par common
Resource Pension Shares 1
$.01 par shares of beneficial interest
Resource Pension Shares 2
$.10 par shares of beneficial interest
Resources Pension Shares 3
$.10 par shares of beneficial interest
Restaurant Management Services, Inc.
$.10 par common
Richmond Hill Savings Bank
$1.00 par common
Service Merchandise Company, Inc.
$.50 par common
Shawmut National Corporation
$.01 par common
Sierra Capital Realty Trust IV
No par common
Somerset Bancorp, Inc.
$2.50 par common
Southernnet, Inc.
$.01 par common
Thetford Corporation
$.25 par common
Unibancorp, Inc.
$5.00 par common
Viking Freight, Inc.
No par common
VM Software, Inc.
$.01 par common
Vulcan Packaging Inc.
No par common
Wilton Enterprises, Inc.
$.10 par common

Additions To The List

3-D Systems, Inc.
No par common
American Steel & Wire Corporation
$.20 par common
Banc One Corporation
Series B, no par convertible preferred
BHA Group, Inc.
Class B, $.01 par common
Bird Incorporated
$1.85 cumulative convertible preferred
Bliss & Laughlin Industries, Inc.
$.01 par common
California State Bank
No par common
Carolina First Corporation
$1.00 par common
Centennial Savings Bank
$1.00 par common
Community Bancorp, Inc.
$.01 par common
Computer Components Corporation
$.01 par common
Warrants (expire 06-18-91)
Continental Savings of America (California)
$1.11 par common
Del Electronics Corp.
$.10 par common
Eastco Industrial Safety Corp.
$.01 par common
E.R.C. Environmental & Energy Services Co., Inc.
$.05 par common
F.F.O. Financial Group, Inc.
$.10 par common
Fidelity Savings Association (Pennsylvania)
$1.00 par common
First Financial Caribbean Corporation
$1.00 par common
FLS Holdings, Inc.
Series A, $.01 par convertible preferred
FMS Financial Corporation
$.10 par common
Garnet Resources Corporation
$.01 par common
Genex Corporation
$.60 par convertible preferred
Genus, Inc.
No par common
GNW Financial Corporation
$.01 par common
Henley Group, Inc., The
$.05 par common
Hingham Institution for Savings
$1.00 par common
Homeowners Group, Inc.
$.01 par common
Homestyle Buffet, Inc.
$.01 par common
Horizon Gold Shares, Inc.
$.01 par common
Imagine Films Entertainment, Inc.
Warrants (expire 07-30-93)
IMCO Recycling Inc.
$.10 par common
Ironstone Group, Inc.
$.01 par common
Key Production Company, Inc.
$.25 par common
Kimmins Environmental Service Corp.
9% convertible subordinated debentures
LEP Group, Plc.
American Depository Receipts
Lindsay Manufacturing Company
$1.00 par common
Logic Devices, Inc.
No par common
Lyphomed, Inc.
5½% convertible subordinated debentures
Mallon Resources Corporation
$.01 par common
Management Technologies, Inc.
$.01 par common
Medical Devices, Inc.
$.10 par common
Metcalf & Eddy Companies, Inc.
$.01 par common
Metro Bancshares, Inc.
$.01 par common
Midwest Grain Products, Inc.

No par common
New England Bancorp, Inc.
$.25 par common
Nu-West Industries, Inc.
$.01 par common
$100 par convertible preferred
Office Depot, Inc.
$.01 par common
O.I. Corporation
$.10 par common
Otisville Biopharm, Inc.
Warrants (expire 05-28-90)
Ovex Fertility Corp.
$.01 par common
P & F Industries, Inc.
$10.00 par convertible preferred
Pacific Agricultural Holdings, Inc.
No par common
Pacific Bancorporation
$1.88 par common
Pentech International, Inc.
$.01 par common
Precision Standard, Inc.
$.0001 par common
Prima Energy Corporation
$.015 par common
Prime Bancorp, Inc.
$1.00 par common
Provident Life & Accident Insurance Company of America
Class A, $1.00 par common
Quadra Logic Technologies, Inc.
No par common
Rainbow Technologies, Inc.
$.001 par common
RF & P Corporation
Non-voting, dividend obligations, $.50 par common
Satellite Information Systems Company
No par common
Showbiz Pizza Time, Inc.
$.10 par common
Softsel Computer Products, Inc.
$.01 par common
Timberjack Corporation
$.01 par common
Tompkins, PLC.
American Depository Receipts
Total Energold Corporation
No par common
Tyco Toys, Inc.
Warrants (expire 06-07-93)
VMS Strategic Land Fund II
$.01 par common
VSB Bancorp, Inc.
$.01 par common
Wainwright Bank & Trust Company
$1.00 par common
Wellington Leisure Products, Inc.
$.01 par common
Williams, A. L., Corporation, The
7.25% convertible subordinated debentures
World-Wide Technology, Inc.
$.01 par common

By order of the Board of Governors of the Federal Reserve System, acting by its Staff Director of the Division of Banking Supervision and Regulation pursuant to delegated authority (12 CFR 265.2(c)(18)), January 27, 1989.

William W. Wiles,

Secretary of the Board.

[FR Doc. 89-2007 Filed 1-27-89; 8:45 am]

BILLING CODE 6210-01-M

FEDERAL HOME LOAN BANK BOARD

12 CFR PARTS 544 and 552

[No. 88-1570]

Charter and Bylaw Amendments; Delegations of Authority

Date: December 30, 1988.

AGENCY: Federal Home Loan Bank Board.

ACTION: Final rule.

SUMMARY: As part of a number of pending and proposed rulemaking projects designed to streamline and otherwise improve various aspects of the Board's applications process,[1] the Federal Home Loan Bank Board ("Board"), as operating head of the Federal Savings and Loan Insurance Corporation ("FSLIC"), is amending the provisions of 12 CFR Parts 544 and 552 regarding delegations of authority to grant or deny preliminary approval of charter amendments and to approve or deny bylaw amendments to delegate authority to the Principal Supervisory Agent to (i) grant or deny preliminary approval of charter amendments pursuant to 12 CFR 544.2(d) for mutual associations and 12 CFR 552.4(e) for stock associations, and (ii) approve or deny bylaw amendments pursuant to 12 CFR 544.5(c) for mutual associations and 12 CFR 552.5(d) for stock associations; provided, that charter and bylaw amendments do not include anti-takeover provisions and do not raise a significant issue of law or policy. Any charter or bylaw amendment not eligible to be processed under this delegation of authority may be acted upon by the Office of General Counsel.

In connection with the amendments to 12 CFR Part 544 and 552 regarding delegations of authority, the Board also amends the relevant provisions of those Parts regarding filing requirements and procedures for charter and bylaw amendments.

EFFECTIVE DATE: January 30, 1989.

FOR FURTHER INFORMATION CONTACT: Kevin L. Petrasic, Staff Attorney, (202) 377-6452, Corporate and Securities Division, Office of General Counsel, Federal Home Loan Bank Board, 1700 G Street, NW., Washington, DC 20552.

SUPPLEMENTARY INFORMATION: Under 12 CFR 544.2 and 552.4, and pursuant to Board Resolution No. 86-719,[2] federal mutual and stock associations, respectively, are required to obtain preliminary approval of charter amendments that differ from the preapproved amendments listed in 12 CFR 544.2(b) and 552.4(b). Likewise, under 12 CFR 544.5 and 552.5, and pursuant to Board Resoluton No. 86-719, federal mutual and stock associations, respectively, are required to obtain approval for bylaw amendments that are inconsistent with the provisions of 12 CFR 544.5(b) and 552.6 through 552.6-4. Currently, to obtain such approvals, a federal association is required to file an application to amend its charter and/or bylaws with the association's Supervisory Agent. Immediately upon filing, the Supervisory Agent is required to forward promptly a copy of the application to the Director of the Office of District Banks, who then forwards the application to the Office of General Counsel. Thereafter, the Supervisory Agent is required to make a recommendation on the application, to approve or deny in whole or in part, to the Director of the Office of District Banks. Upon receipt of the application, the Office of General Counsel determines whether the amendment would be in conformity with the provisions of 12 CFR 544.2 or 552.4, if the application involves a charter amendment, or whether it is not inconsistent with the provisions of 12 CFR 554.5 or 552.6 through 552.6-4, if it involves a bylaw amendment. The Office of General Counsel then generally prepares and signs a letter

[1] *See* Application Processing Guidelines, 52 FR 39064 (October 20, 1987) (setting forth the Board's policy statement on applications processing guidelines); Acquisition of Securities of Converting and Converted Insured Institutions, 52 FR 42091 (November 3, 1987) (delegating authority to the General Counsel or his designee to approve routine applications filed pursuant to 12 CFR 563b.3(i)(3)); Acquisition of Control of Insured Institutions; Procedural Requirements, 52 FR 48519 (December 23, 1987) (revising filing procedures and time frames for public notification and sufficiency determinations for applications, notices and rebuttal filings filed pursuant to 12 CFR Part 574); Holding Company Indebtedness, 52 FR 49381 (December 31, 1987) (revising the time frame for the processing of debt applications and delegating authority to the Supervisory Agent to approve or deny most debt applications); Restrictions on Repurchase of Stock of Recently Converted Insured Institutions, 53 FR 2477 (January 28, 1988) (preapproving certain requests for waiver of the regulatory restrictions on repurchases of stock by recently converted insured institutions); Acquisition of Control of Insured Institutions; Delegations of Authority and Technical Amendments, 53 FR 33104 (expanding the authority of the Principal Supervisory Agents to approve and disapprove certain change of control notices and applications under 12 CFR Part 574, and certain other technical amendments to streamline 12 CFR Part 574); Policy Statement on Merger-Conversions, ___ FR ___ (restating and clarifying the Board's position on merger-conversions); Preapproved Securities Brokerage Service Corporation Activities, ___ FR ___ (proposed preapproval of certain securities brokerage service corporation activities).

[2] Resolution No. 86-719 (July 15, 1986), repealing *inter alia* Resolution No. 83-206 (April 8, 1983).

either approving or denying the application that is then returned to the Office of District Banks, which also executes the letter.

In order to streamline this process, the Board is adopting 12 CFR 544.2(d), 544.5(c), 552.4(e) and 552.5(d) so that applications for approval of charter and bylaw amendments may be granted or denied by a federal association's Principal Supervisory Agent, *provided* that they (i) do not have the effect of rendering more difficult or discouraging a merger, tender offer, or proxy contest, the assumption of control by a holder of a larger block of the association's stock, or the removal of incumbent management (hereinfater, "Anti-takeover Amendments"), or (ii) do not involve a significant issue of law or policy. In addition, applications for approval of charter or bylaw amendments that include Anti-takeover Amendments or that involve a significant issue of law or policy may be acted upon by the Office of General Counsel, which will have delegated authority to either approve or deny such proposed amendments. As appropriate, e.g., for amendments presenting policy issues of potentially broad precedential effect, the Office of General Counsel will refer proposed amendments to the Board for a determination.

If an applicant believes its application is eligible to be processed under delegated authority by the Principal Supervisory Agent pursuant to either of these provisions, the applicant should submit to the Principal Supervisory Agent, together with the proposed amendments, a brief description of the proposed charter and/or bylaw amendments including a statement indicating that the amendment does not include any Anti-takeover Amendments and does not involve a significant issue of law or policy. Such statement should be clearly marked "Statement Regarding Eligibility for Processing Under Delegated Authority." Although failure to provide such a statement will not cause the application to be deemed deficient, it may cause delay in processing the application until a determination is made by the Supervisory Agent as to whether the application may be processed under delegated authority. In addition, filing an application with the suggested statement will remove the necessity of concurrently filing the application with the Office of General Counsel. However, if the Supervisory Agent determines that the application includes an Anti-takeover Amendment or involves a significant issue of law or policy, contrary to an applicant's statement of delegated authority, then the application will be immediately forwarded to the Office of General Counsel to avoid further delays in processing. Failure to file properly with the Office of General Counsel at the outset will cause the applicable time frames for review not to commence until the application is received from the District Bank. Thus, an applicant that is uncertain as to whether a charter or bylaw amendment may include an Anti-takeover Amendment or involve a significant issue of law or policy is strongly encouraged to contact either its Supervisory Agent or the Office of General Counsel for guidance on the issue prior to filing an application so as to avoid unnecessary delays in processing the application.

As a general matter, Anti-takeover Amendments that will cause an application for approval not to be processed under delegated authority include *but are not limited to* (i) establishing supermajority approval requirements for specified corporate transactions, (ii) establishing a supermajority vote to cancel an existing or proposed supermajority provision, (iii) establishing a supermajority vote to amend an association's charter, (iv) reducing an existing or proposed supermajority vote requirement if a transaction involves a related party to the association, *e.g.*, an insider or 5 percent or more shareholder, (v) issuing poison pill preferred stock or establishing shareholders' rights plans, *i.e.*, the creation of a class of stock or the issuance of options to management that will serve to discourage prospective acquiror's of the association's stock, (vi) establishing employee benefit, stock ownership, or stock option plans that provide a means to defend against a takeover attempt, (vii) provisions that unreasonably restrict the ability of the shareholders to remove the current board of directors or that unreasonably restrict the ability of the shareholders to call a special meeting, (viii) establishing a supermajority vote requirement, or requiring the consent of management, for a large shareholder to vote those shares that it owns that exceed a designated percentage of the outstanding stock of the association, (ix) establishing fair price provisions for an association's stock that would make it more expensive for a prospective acquiror of an association's stock to purchase a controlling interest of the association without the cooperation of current management, (x) limiting the shareholders' ability to nominate directors and to introduce new business proposals at a shareholders' meeting, and (xi) requiring a supermajority shareholder vote to remove a director.

In addition, a charter or bylaw amendment will be considered to involve a significant issue of law or policy if it contains unique, novel, complex, or nationally precedential issues of law or policy. Examples in this area include provisions attempting to limit the liability of directors for breaches of certain types of fiduciary duties, and officer and director indemnification provisions that do not conform to the requirements of 12 CFR 545.121.

The standard of review for applications for approval of charter and bylaw amendments is not changed as a result of these amendments. All routine charter amendments filed with the Supervisory Agent may be granted preliminary approval so long as such amendments do not differ in any material respect from the charter amendments granted preliminary approval under 12 CFR 552.4(b) or other law or regulation, including the indemnification provisions of 12 CFR 545.121. In addition, all routine bylaw amendments that are not materially inconsistent with the provisions of 12 CFR 552.6 through 552.6–4 may be approved by the Principal Supervisory Agent. Thus, for example, an applicant filing an application to adopt an indemnification provision in its charter or bylaws may be eligible to receive approval for the application from the Principal Supervisory Agent, provided, that such provision does not differ *materially* from the requirements of 12 CFR 545.121.[3]

The amendments to 12 CFR Parts 544 and 552 also include an appeal procedure that an applicant may utilize if it feels that the Principal Supervisory Agent has erroneously denied its application. In this regard, if an application delegated to the Principal Supervisory Agent is denied, the applicant may, within 30 days after notification of the Principal Supervisory Agent's decision, file a request for review with the Office of General Counsel. Upon receipt of such a request,

[3] This particular provision is referenced due to the fact that in the past there has been considerable confusion among applicants as to what type of wording is acceptable for an indemnification charter or bylaw amendment. In this regard, although the precise language of 12 CFR 545.121 need not be adopted for a charter or bylaw amendment to be approved by the Principal Supervisory Agent, any such amendment should not exceed the limitations set forth in 12 CFR 545.121, with the exception that officers, directors and employees of wholly-owned subsidiaries also may be included within the scope of permissible indemnification.

which should include a copy of the application and indicate the specific reasons why the Principal Supervisory Agent's denial is contended to be erroneous, the Office of General Counsel will have 60 days to review the application to determine whether to approve or deny the amendment. If the Office of General Counsel does not deny the appeal within such 60 day period, then the appeal request and the amendment shall be deemed to be automatically approved.

Finally, in connection with the aforementioned amendments to 12 CFR Parts 544 and 552, the Board is adopting 12 CFR 554.2(e), 552.4(f) and 552.5(e) regarding the filing requirements for applications for approval of charter and bylaw amendments.

The foregoing changes are effective January 30, 1989 and are applicable to applications filed after such date.

Because this change is nonsubstantive, the Board finds that observance of the notice and comment period pursuant to 5 U.S.C. 553(b) and 12 CFR 508.11 and the 30-day delay of effective date pursuant to 5 U.S.C. 553(d) and 12 CFR 508.14 is unnecessary and contrary to the public interest.

List of Subjects in 12 CFR Parts 544 and 552

Reporting and recordkeeping requirements, Savings and loan associations, Securities.

Accordingly, the Board hereby amends Parts 544 and 552, Subchapter C, Chapter V, Title 12, Code of Federal Regulations, as set forth below.

* * * * *

SUBCHAPTER C—FEDERAL SAVINGS AND LOAN INSURANCE CORPORATION

PART 544—CHARTER AND BYLAWS

1. The authority citation for Part 544 continues to read as follows:

Authority: Sec. 5, 48 Stat. 132, as amended (12 U.S.C. 1464); secs. 402, 403, 407, 48 Stat. 1256, 1260, as amended (12 U.S.C. 1725, 1726, 1730); Reorg. Plan No. 3 of 1947; 12 FR 4981, 3 CFR, 1943–1948 Comp., p. 1071.

2. Amend § 544.2 by adding paragraph (d) to read as follows:

§ 544.2 Charter amendments.

* * * * *

(d) *Delegations of authority.—(1) Actions by the Principal Supervisory Agent.* The Principal Supervisory Agent is authorized to grant or deny preliminary approval, in whole or in part, of any application for a charter amendment filed under this section: Provided, that the following conditions are met:

(i) The application does not include proposals that would render more difficult or discourage a merger, tender offer, or proxy contest, the assumption of control by a holder of a large block of the association's stock, or the removal of incumbent management; and

(ii) The application does not involve a significant issue of law or policy.

(2) *Appeal.* Denial of an application by a Principal Supervisory Agent pursuant to paragraph (d)(1) of this section may be appealed to the Corporation under the following procedures: Within 30 days after notification of the Principal Supervisory Agent's decision as provided herein, the applicant must file a request for review with the Office of General Counsel, addressed to the Corporate and Securities Division, Office of General Counsel, 1700 G Street, NW., Washington, DC 20552, with a copy of such request to the appropriate Principal Supervisory Agent. The appeal request should include the application for charter amendment as originally filed with the Supervisory Agent, a copy of the Principal Supervisory Agent's letter denying preliminary approval of the application, and should indicate the specific reasons why the Principal Supervisory Agent's denial is contended to be erroneous. Failure to file an appeal within the time permitted under this section will constitute a waiver of any objection to the Principal Supervisory Agent's determination. Upon proper filing of an appeal request, including a complete application, as determined by the Office of General Counsel, the Office of General Counsel shall have 60 calendar days to determine whether to approve or deny the appeal. If the Office of General Counsel does not approve or deny the appeal request within the 60-day period, the appeal request shall be deemed to be automatically approved following the 60th day after the appeal was properly filed.

(3) *Actions by the General Counsel.* The General Counsel, or designee, is authorized to take the following actions:

(i) Grant or deny, in whole or in part, preliminary approval of any application for a charter amendment filed under this section; and

(ii) Approve or deny a request for appeal filed pursuant to paragraph (d)(2) of this section.

3. Further amend § 544.2 by adding paragraph (e) to read as follows:

§ 544.2 Charter amendments.

* * * * *

(e) *Filing requirements.* Application for preliminary approval of any amendment to the charter of a federal mutual association (other than amendments for which preliminary approval is granted pursuant to paragraph (b) of this section) that is eligible to be processed under delegated authority pursuant to paragraph (d) of this section, shall be made by filing the original and one copy of the proposed amendment, along with a statement regarding eligibility for processing under delegated authority, with the Supervisory Agent at the Federal Home Loan Bank of which the institution is a member. Such statement should consist of a brief description of the proposed amendment and a statement that such amendment does not:

(i) Render more difficult or discourage a merger, tender offer, or proxy contest, the assumption of control by a holder of a large block of the association's stock, or the removal of incumbent management, or

(ii) Involve a significant issue of law or policy.

If a proposed amendment is not eligible to be processed under delegated authority pursuant to paragraph (d) of this section, then the original and one copy of the proposed amendment should be filed with the Corporate and Securities Division, Office of General Counsel, 1700 G Street, NW., Washington, DC 20552, with a copy to the Supervisory Agent.

4. Amend § 544.5 by adding paragraph (c) to read as follows:

§ 544.5 Federal mutual association bylaws.

* * * * *

(c) *Delegations of authority.*—(1) *Actions by the Principal Supervisory Agent.* The Principal Supervisory Agent is authorized to approve or deny, in whole or in part, any application for a bylaw amendment filed under this section: Provided, that the following conditions are met:

(i) The application does not include proposals that would render more difficult or discourage a merger, tender offer or proxy contest, the assumption of control by a holder of a large block of the association's stock, or the removal of incumbent management; and

(ii) The application does not involve a significant issue of law or policy.

(2) *Appeal.* Denial of an application by a Principal Supervisory Agent pursuant to paragraph (c)(1) of this section may be appealed to the Corporation under the following procedures: Within 30 days after notification of the Principal Supervisory Agent's decision as provided herein, the applicant must file a request for review

with the Office of General Counsel, addressed to the Corporate and Securities Division, Office of General Counsel, 1700 G Street, NW., Washington, DC 20552, with a copy of such request to the appropriate Principal Supervisory Agent. The appeal request should include the application for bylaw amendment as originally filed with the Supervisory Agent, a copy of the Principal Supervisory Agent's letter denying approval of the application, and a statement of the specific reasons why the Principal Supervisory Agent's denial is contended to be erroneous. Failure to file an appeal within the time permitted under this section will constitute a waiver of any objection to the Principal Supervisory Agent's determination. Upon proper filing of an appeal request, including a complete application, as determined by the Office of General Counsel, the Office of General Counsel shall have 60 calendar days to determine whether to approve or deny the appeal. If the Office of General Counsel does not approve or deny the appeal request within the 60 day period, then the appeal request shall be deemed to be automatically approved following the 60th day after the appeal was properly filed.

(3) *Actions by the General Counsel.* The General Counsel, or designee, is authorized to take the following actions:

(i) Approve or deny, in whole or in part, any application for a bylaw amendment filed under this section; and

(ii) Approve or deny a request for appeal filed pursuant to paragraph (c)(2) of this section.

5. Further amend § 544.5 by adding paragraph (d) to read as follows:

§ 544.5 Federal mutual association bylaws.

* * * * *

(d) *Filing requirements.* Application for preliminary approval of any amendment to the bylaws of a federal mutual association that is inconsistent with paragraph (b) of this section and that is eligible to be processed under delegated authority pursuant to paragraph (c) of this section shall be made by filing the original and one copy of the proposed amendment, along with a statement regarding eligibility for processing under delegated authority, with the Supervisory Agent at the Federal Home Loan Bank of which the institution is a member. Such statement should consist of a brief description of the proposed amendment and a statement that such amendment does not:

(i) Render more difficult or discourage a merger, tender offer, or proxy contest, the assumption of control by a holder of a large block of the association's stock, or the removal of incumbent management, or

(ii) Involve a significant issue of law or policy.

If a proposed amendment is not eligible to be processed under delegated authority pursuant to paragraph (c) of this section, then the original and one copy of the proposed amendment should be filed with the Corporate and Securities Division, Office of General Counsel, 1700 G Street, NW., Washington, DC 20552, with a copy to the Supervisory Agent.

PART 552—INCORPORATION, ORGANIZATION, AND CONVERSION OF FEDERAL STOCK ASSOCIATIONS

1. The authority citation for Part 552 continues to read as follows:

Authority: Sec. 5A, 47 Stat. 727, as added by sec. 1, 64 Stat. 256, as amended (12 U.S.C. 1425(a)); sec. 5B, 47 Stat. 727, as added by sec. 4, 80 Stat. 824, as amended (12 U.S.C. 1425b); secs. 2, 5, 48 Stat. 128, 132, as amended (12 U.S.C. 1462, 1464); secs. 401–403, 405–407, 48 Stat. 1255–1257, 1259–1260, as amended (12 U.S.C. 1724–1726, 1728–1730); sec. 408, 82 Stat. 5, as amended (12 U.S.C. 1730a); Reorg. Plan No. 3 of 1947, 12 FR 4981, 3 CFR, 1943–1948 Comp., p. 1071.

2. Amend § 552.4 by adding paragraph (e) to read as follows:

§ 552.4 Charter amendments.

* * * * *

(e) *Delegations of authority*—(1) *Actions by the Principal Supervisory Agent.* The Principal Supervisory Agent is authorized to grant or deny preliminary approval, in whole or in part, of any application for a charter amendment filed under this section: Provided, that the following conditions are met:

(i) The application does not include proposals that would render more difficult or discourage a merger, tender offer, or proxy contest, the assumption of control by a holder of a large block of the association's stock, or the removal of incumbent management; and

(ii) The application does not involve a significant issue of law or policy.

(2) *Appeal.* Denial of an application by a Principal Supervisory Agent pursuant to paragraph (e)(1) of this section may be appealed to the Corporation under the following procedures: Within 30 days after notification of the Principal Supervisory Agent's decision as provided herein, the applicant must file a request for review with the Offices of General Counsel, addressed to the Corporate and Securities Division, Office of General Counsel, 1700 G Street, NW., Washington, DC 20552, with a copy of such request to the appropriate Principal Supervisory Agency. The appeal request should include the application for charter amendment as originally filed with the Supervisory Agent, a copy of the Principal Supervisory Agent's letter denying preliminary approval of the application, and a statement of the specific reasons why the Principal Supervisory Agent's denial is contended to be erroneous. Failure to file an appeal within the time permitted under this section will constitute a waiver of any objection to the Principal Supervisory Agent's determination. Upon proper filing of an appeal request, including a complete application, as determined by the Office of General Counsel, the Office of General Counsel shall have 60 calendar days to determine whether to approve or deny the appeal. If the Office of General Counsel does not approve or deny the appeal request within the 60-day period, then the appeal request shall be deemed to be automatically approved following the 60th day after the appeal was properly filed.

(3) *Actions by the General Counsel.* The General Counsel, or designee, is authorized to take the following actions:

(i) Grant or deny, in whole or in part, preliminary approval of any application for a charter amendment filed under this section; and

(ii) Approve or deny a request for appeal filed pursuant to paragraph (e)(2) of this section.

3. Further amend § 552.4 by adding paragraph (f) to read as follows:

§ 552.4 Charter amendments.

* * * * *

(f) *Filing requirements.* Application for preliminary approval of any amendment to the charter of a federal stock association (other than amendments for which preliminary approval is granted pursuant to paragraph (b) of this section) that is eligible to be processed under delegated authority pursuant to paragraph (e) of this section shall be made by filing the original and one copy of the proposed amendment, along with a statement regarding eligibility for processing under delegated authority, with the Supervisory Agent at the Federal Home Loan Bank of which the institution is a member. Such statement should consist of a brief description of the proposed amendment and a statement that such amendment does not:

(i) Render more difficult or discourage a merger, tender offer, or proxy contest, the assumption of control by a holder of a large block of the association's stock,

or the removal of incumbent management, or

(ii) Involve a significant issue of law or policy.

If a proposed amendment is not eligible to be processed under delegated authority pursuant to paragraph (e) of this section, then the original and one copy of the proposed amendment should be filed with the Corporate and Securities Division, Office of General Counsel, 1700 G Street, NW., Washington, DC 20552, with a copy to the Supervisory Agent.

4. Amend § 552.5 by adding paragraph (d) to read as follows:

§ 552.5 Bylaws.

* * * * *

(d) *Delegations of authority*—(1) *Actions by the Principal Supervisory Agent.* The Principal Supervisory Agent is authorized to approve or deny, in whole or part, any application for a bylaw amendment filed under this section: Provided, that the following conditions are met:

(i) The application does not include proposals that would render more difficult or discourage a merger, tender offer, or proxy contest, the assumption of control by a holder of a large block of the association's stock, or the removal of incumbent management; and

(ii) The application does not involve a significant issue of law or policy.

(2) *Appeal.* Denial of an application by a Principal Supervisory Agent pursuant to paragraph (d)(1) of this section may be appealed to the Corporation under the following procedures: Within 30 days after notification of the Principal Supervisory Agent's decision as provided herein, the applicant must file a request for review with the Office of General Counsel, addressed to the Corporate and Securities Division, Office of the General Counsel, 1700 G Street NW., Washington, DC 20552, with a copy of such request to the appropriate Principal Supervisory Agent. The appeal request should include the application for bylaw amendment as originally filed with the Supervisory Agent, a copy of the Principal Supervisory Agent's letter denying approval of the application, and a statement of the specific reasons why the Principal Supervisory Agent's denial is contended to be erroneous. Failure to file an appeal within the time permitted under this section will constitute a waiver of any objection to the Principal Supervisory Agent's determination. Upon proper filing of an appeal request, including a complete application, as determined by the Office of General Counsel, the Office of General Counsel shall have 60 calendar days to determine whether to approve or deny the appeal. If the Office of General Counsel does not approve or deny the appeal request within the 60-day period, then the appeal request shall be deemed to be automatically approved following the 60th day after the appeal was properly filed.

(3) *Actions by the General Counsel.* The General Counsel, or designee, is authorized to take the following actions:

(i) Approve or deny, in whole or in part, any application for a bylaw amendment filed under this section; and

(ii) Approve or deny a request for appeal filed pursuant to paragraph (d)(2) of this section.

5. Further amend § 552.5 by adding paragraph (e) to read as follows:

§ 552.5 Bylaws.

* * * * *

(e) *Filing requirements.* Application for preliminary approval of any amendment to the bylaws of a federal stock association that is inconsistent with §§ 552.6 through 552.6–4 and that is eligible to be processed under delegated authority pursuant to paragraph (d) of this section, shall be made by filing the original and one copy of the proposed amendment, along with a statement regarding eligibility for processing under delegated authority, with the Supervisory Agent at the Federal Home Loan Bank of which the institution is a member. Such statement should consist of a brief description of the proposed amendment and a statement that such amendment does not:

(i) Render more difficult or discourage a merger, tender offer, or proxy contest, the assumption of control by a holder of a large block of the association's stock, or the removal of incumbent management, or

(ii) Involve a significant issue of law or policy.

If a proposed amendment is not eligible to be processed under delegated authority pursuant to paragraph (d) of this section, then the original and one copy of the proposed amendment should be filed with the Corporate and Securities Division, Office of General Counsel, 1700 G Street NW., Washington, DC 20552, with a copy to the Supervisory Agent.

By the Federal Home Loan Bank Board.

John F. Ghizzoni,

Assistant Secretary.

[FR Doc. 89–1922 Filed 1–27–89; 8:45 am]

BILLING CODE 6720–01–M

12 CFR Part 563

[No. 89–10]

Criminal Referrals; Money Laundering Crimes

Date: January 11, 1989.

AGENCY: Federal Home Loan Bank Board.

ACTION: Final rule; miscellaneous conforming and technical amendments.

SUMMARY: The Federal Home Loan Bank Board ("Board"), as operating head of the Federal Savings and Loan Insurance Corporation ("FSLIC"), is amending its regulations in order to correct typographical and other technical errors and to promote consistent use of phrases throughout the regulations.

EFFECTIVE DATE: January 30, 1989.

FOR FURTHER INFORMATION CONTACT: John Downing, Assistant Director, Office of Enforcement, (202) 653–2604, Federal Home Loan Bank Board, 1700 G Street, NW., Washington, DC 20552.

SUPPLEMENTARY INFORMATION: On March 29, 1988, the Board adopted final amendments to its Criminal Referral regulation (12 CFR 563.18(d)) to revise its description of bank bribery, add a requirement to report money laundering related crimes, modify the regulation to ease the filing requirement when no suspect can be identified, and eliminate overlap between the criminal referral requirement and the Board's regulation requiring that records be kept of certain external crimes. 53 FR 11242 (April 6, 1988). In order to achieve consistency throughout and to clarify the regulation, the Board is now amending 12 CFR 563.18(d)(1)(ii), by substituting the term "known factual basis" for "substantial factual basis." In addition, the Board is correcting typographical errors in 12 CFR 563.18 (d)(2)(i) and (d)(4).

Pursuant to 12 CFR 508.11 and 508.14, the Board finds that, because of the minor, technical nature of these corrective amendments, notice and public procedure are unnecessary, as is the 30-day delay of the effective date.

List of Subjects in 12 CFR Part 563

Bank deposit insurance, Currency, Investments, Reporting and recordkeeping requirements, Savings and loan associations.

Accordingly, the Board hereby amends Part 563, Subchapter D, Chapter V, Title 12, Code of Federal Regulations, as set forth below.

SUBCHAPTER D—FEDERAL SAVINGS AND LOAN INSURANCE CORPORATION

PART 563—OPERATIONS

1. The authority citation for Part 563 continues to read as follows:

Authority: Sec. 1, 47 Stat. 725, as amended (12 U.S.C. 1421 *et seq.*); sec. 5A, 47 Stat. 727, as added by sec. 1, 64 Stat. 256, as amended (12 U.S.C. 1425a); sec. 5B, 47 Stat. 727, as added by sec. 4, 80 Stat. 824, as amended (12 U.S.C. 1425b); sec. 17, 47 Stat. 736, as amended (12 U.S.C. 1437); sec. 2, 48 Stat. 128, as amended (12 U.S.C. 1462); sec. 5, 48 Stat. 132, as amended (12 U.S.C. 1464); secs. 401–407, 48 Stat. 1255–1260, as amended (12 U.S.C. 1724–1730); sec. 408, 82 Stat. 5, as amended (12 U.S.C. 1730a); sec. 1204, 101 Stat. 662 (12 U.S.C. 3806); Reorg. Plan No. 3 of 1947, 12 FR 4981, 3 CFR 1943–1948 Comp., p. 1071.

§ 563.18 [Amended]

2. Amend § 563.18 by revising paragraphs (d)(1)(ii), (d)(2)(i) and (d)(4) to read as follows:

* * * * *

(d) *Reports of crimes, suspected crimes, and unexplained losses.*

(1) * * *

(ii) If those acts involve actual or anticipated losses of more than $1,000 and the institution has a known factual basis for identifying a suspect or group of suspects;

* * * * *

(2) *Filing of reports.* * * *

(i) Embezzlement, employee larceny, check-kiting operation, fraud, attempted fraud, unexplained loss, or other known or suspected misapplication of funds or other things of value belonging to an insured institution or entrusted to its care;

* * * * *

(4) *Notification of the Board of Directors.* The chief executive officer of the insured institution or his designee shall notify the board of directors concerning any report filed pursuant to paragraph (d)(2) of this section by the institution or a service corporation in which it has an ownership interest not later than its next regularly scheduled meeting following the filing of the report. If the chief executive officer is suspected of being involved in the violation, the next ranking officer shall notify the institution's Board.

* * * * *

By the Federal Home Loan Bank Board.

John F. Ghizzoni,

Assistant Secretary.

[FR Doc. 89–1923 Filed 1–27–89; 8:45 am]

BILLING CODE 6720–01–M

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 88–ANE–32; Amdt. 39–6092]

Airworthiness Directives; Allison Gas Turbine Division, General Motors Corp., Allison Model 250–B17; –C20, –C20R, and –C30 Series Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: This action published in the Federal Register and makes effective as to all persons an amendment adopting a new airworthiness directive (AD) which was previously made effective by individual priority letter as to all known U.S. owners and operators of certain Allison Model 250–B17, –C20, –C20R, and –C30 series engines, incorporating Bendix gas producer fuel controls listed in the attached appendix, installed in aircraft certificated in any category. This AD requires that the affected Bendix gas producer fuel controls listed by part number and serial number in the attached appendix be removed from service within the next ten (10) operating hours after the effective date of this AD, unless already accomplished. This AD is needed to prevent possible engine over-temperature condition, loss of throttle response, or unscheduled power increase.

DATES: Effective March 1, 1989, as to all persons except those persons to whom it was made immediately effective by priority letter AD 88–17–01, issued August 15, 1988, which contained this amendment.

Compliance—Within the next ten (10) operating hours after the effective date of this AD.

Incorporation by Reference—Approved by the Director of the Federal Register as of March 1, 1989.

ADDRESSES: The applicable commercial engine bulletin may be obtained from Allison Gas Turbine Division, General Motors Corporation, P.O. Box 420, Indianapolis, Indiana 46206–0420; telephone (317) 230–4088.

A copy of the alert commercial engine bulletin is contained in the Rules Docket at the Office of Regional Counsel, Federal Aviation Administration, ATTN: Rules Docket No. 88–ANE–32, 12 New England Executive Park, Burlington, Massachusetts 01803, and may be examined weekdays, except federal holidays, between 8:00 a.m. and 4:30 p.m.

FOR FURTHER INFORMATION CONTACT: Mr. Ty D. Krolicki, Chicago Aircraft Certification Office, Propulsion Branch, ACE–140C, FAA, 2300 East Devon Avenue, Des Plaines, Illinois 60018; telephone 312–694–7032.

SUPPLEMENTARY INFORMATION: On August 15, 1988, priority letter AD No. 88–17–01, was issued and made effective immediately as to all known U.S. owners and operators of certain Allison Model 250–B17, –C20, –C20R, and –C30 series engines. The priority letter AD 88–17–01 requires that the affected Bendix gas producer fuel controls listed by part number and serial number in the attached appendix be removed from service within the next ten (10) operating hours after the effective date of the AD, but not later than October 1, 1988, unless already accomplished.

AD action was prompted by the discovery, during an audit inspection at the Bendix facility in Rocky Mount, North Carolina, that several of these fuel controls were experiencing excessive control gas pressure leakage. During the ensuing investigation, it was determined that the assembly procedure for installing an internal control bellows was improper and resulted in excessive control gas pressure leakage. Consequently, it became possible to obtain an unwanted fuel flow shift which could result in an engine over-temperature condition, a loss of throttle response, or an unscheduled engine power increase. Allison has determined that the above improper assembly is limited to seventy-six (76) units recently manufactured at the Rocky Mount facility.

The attached appendix contains corrections for two (2) serial numbers included in the priority letter AD 88–17–01.

AD action was necessary to prevent possible engine over-temperature condition, loss of throttle response, or unscheduled power increase.

Since it was found that immediate corrective action was required, notice and public procedure thereon were impracticable and contrary to public interest, and good cause existed to make the AD effective immediately by individual priority letter AD 88–17–01, issued August 15, 1988, as to all known U.S. owners and operators of certain Allison Model 250–B17, –C20, –C20R, and –C30 series engines. These conditions still exist, and this AD is hereby published in the Federal Register as an amendment to § 39.13 of Part 39 of the Federal Aviation Regulations to make it effective as to all persons.

The regulations adopted herein will not have substantial direct effects on the states, on the relationship between the national government and the states, or

on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

Conclusion

The FAA has determined that this regulation is an emergency regulation that is not considered to be major under Executive Order 12291. It is impracticable for the agency to follow the procedures of Executive Order 12291 with respect to this rule since the rule must be issued immediately to correct an unsafe condition in aircraft. It has been further determined that this action involves an emergency regulation under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979). If this action is subsequently determined to involve a significant/major regulation, a final regulatory evaluation or analysis, as appropriate, will be prepared and placed in the regulatory docket (otherwise, an evaluation or analysis is not required). A copy of it, when filed, may be obtained by contacting the person identified under the caption **"FOR FURTHER INFORMATION CONTACT".**

List of Subjects in 14 CFR Part 39

Engines, Air transportation, Aircraft, Aviation safety, Incorporation by reference.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me, the Federal Aviation Administration (FAA) amends Part 39 of the Federal Aviation Regulations (FAR) as follows:

PART 39—[AMENDED]

1. The authority citation for Part 39 continues to read as follows:

Authority: 49 U.S.C. 1354(a), 1421, and 1423; 49 U.S.C. 106(g) (Revised, Pub. L. 97–449, January 12, 1983); and 14 CFR 11.89.

§ 39.13 [Amended]

2. By adding to § 39.13 the following new airworthiness directive (AD):

Allison Gas Turbine Division, General Motors Corporation (Allison): Applies to Allison Model 250–B17, –C20, –C20R, and –C30 series engines, incorporating Bendix gas producer fuel controls listed in the attached appendix, installed in aircraft certificated in any category.

Compliance is required as indicated, unless already accomplished.

To prevent possible engine over-temperature, loss of throttle response, or unscheduled power increase accomplish the following:

(a) Remove from service within the next ten (10) operating hours after the effective date of this AD, the affected Bendix gas producer fuel controls listed by part number and serial number in the attached appendix and replace with a serviceable part.

Notes:

(1) Out-of-service affected Bendix gas producer fuel controls, listed by part number and serial number in the attached appendix, may be returned to service upon the incorporation of Allison Alert Commercial Engine Bulletin (CEB) titled "Engine, Fuel and Control, Inspection of Certain Bendix Fuel Control Bellows Assemblies," dated August 1, 1988, with applicability as follows:

Engine Model	Bulletin Number
250-C20 Series	CEB-A-1272
250-B17 Series	TP CEB-A-1231
250-C30 Series	CEB-A-73-3042
250-C20R Series	CEB-A-73-4008

(2) Those affected Bendix gas producer fuel controls incorporating the above-cited Allison Alert CEB are identified by a green mark on the cylinder portion of the self-locking cap nut and either the letter "A" or the letter "B" in the "LESS ISSUE" block of the data plate.

(b) Aircraft may be ferried in accordance with the provisions of FAR 21.197 and 21.199 to a base where this AD can be accomplished.

(c) Upon request, an equivalent means of compliance with the requirements of this AD may be approved by the Manager, Chicago Aircraft Certification Office, Federal Aviation Administration, 2300 East Devon Avenue, Des Plaines, Illinois 60018.

(d) upon submission of substantiating data by an owner or operator through an FAA Airworthiness Inspector, the Manager, Chicago Aircraft Certification Office, may adjust the compliance time specified in this AD.

Allison Alert CEB titled "Engine, Fuel and Control, Inspection of Certain Bendix Fuel Control Bellows Assemblies", dated August 1, 1988, identified and described in this document, is incorporated herein and made a part hereof pursuant to 5 U.S.C. 552(a)(1). All persons affected by this directive who have not already received this document from the manufacturer may obtain copies upon request to Allison Gas Turbine Division, General Motors Corporation, P.O. Box 420, Indianapolis, Indiana 46206–0420. This document may also be examined at the Office of the Assistant Chief Counsel, Federal Aviation Administration, New England Region, 12 New England Executive Park, Burlington, Massachusetts 01803, Room 311, Rules Docket Number 88–ANE–32, between the hours of 8:00 a.m. and 4:30 p.m., Monday through Friday, except federal holidays.

This amendment becomes effective March 1, 1989 as to all persons except those persons to whom it was made immediately effective by individual priority letter AD 88–17–01, issued August 15, 1988, which contained this amendment.

Issued in Burlington, Massachusetts, on December 7, 1988.

Arthur J. Pidgeon,

Acting Manager, Engine and Propeller Directorate, Aircraft Certification Service.

Appendix

AD 88–17–01

Bendix Fuel Controls:
Bendix Part No.:
2524644–26 (Allison 23033917)
Serial No.:
87241174 87490092 88041524 88090122
87370001 88041515 88090107 88090124
[1] 87430041 88041516 88090110 88090125
87430042 88041517 88090112 88090126
[1] 87430044 88041518 88090114 88090128
87430045 88041519 88090116 88090129
87490081 88041520 88090118 88090130
87490082 88041521 88090119 88090131
87490083 880415122 88090120
87490084 88041523 88090121

Bendix Part No.:
2524654–23 (Allison 23036660)
Serial No.:
87251235
87460078

Bendix Part No.:
2524886–10 (Allison 23033919)
Serial No.:
87430052 87430055 87490102
87430053 87490101 87490104

Bendix Part No.:
2524922–6 (Allison 23033849)
Serial No.:
87370010
88090143
88090144

Bendix Part No.:
2524957–3 (Allison 23030614)
Serial No.:
84250105

Bendix Part No.:
2524986–2 (Allison 23038954)
Serial No.:
87490095
87490098

Bendix Part No.:
2549032–2 (Allison 23037275)
Serial No.:
87430056 87430063 88090154 88090163
87430057 87430065 88090155 88090165
87430059 88090147 88090156 88090166
87430060 88090149 88090157 88130236
87430061 88090151 88090158 88130249
87430062 88090152 88090160 881300250

[FR Doc. 89–1995 Filed 1–27–89; 8:45 am]

BILLING CODE 4910–13–M

[1] These Serial Nos. corrected from Priority Letter AD 88–17–01 by this Final Rule.

14 CFR Part 39

[Docket No. 88-NM-219-AD; Amdt. 39-6129]

Airworthiness Directives; Empresa Brasileira de Aeronautica, S.A. (EMBRAER) Model EMB-120 Series Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), applicable to EMBRAER Model EMB-120 series airplanes, which requires replacing two standard nuts with self-locking nuts to secure the No. 1 and No. 2 auxiliary generator control voltage sensor wires to the connecting bars at relays K0035 and K0036. This amendment is prompted by a report of the loss of essential systems in an airplane during flight. This condition, if not corrected, could result in the loss of essential navigation systems, such as the Attitude Heading Reference System (AHRS) and Electronic Flight Instrument System (EFIS).

EFFECTIVE DATE: February 15, 1989.

ADDRESSES: The applicable service information may be obtained from EMBRAER, 276 SW. 34th Street, Fort Lauderdale, Florida 33315. This information may be examined at FAA, Northwest Mountain Region, 17900 Pacific Highway South, Seattle, Washington, or FAA, Central Region, Atlanta Aircraft Certification Office, 1669 Phoenix Parkway, Suite 210C, Atlanta, Georgia.

FOR FURTHER INFORMATION CONTACT: Mr. A. E. Clark, Aerospace Engineer, Atlanta Aircraft Certification Office, Systems & Equipment Branch, FAA, Central Region, 1669 Phoenix Parkway, Suite 210C, Atlanta, Georgia 30349; telephone (404) 991-3020.

SUPPLEMENTARY INFORMATION: A single occurrence of loss of essential systems has been reported by an operator of a Model EMB-120 series airplane. The loss of the systems was short term in that the systems were recycled and returned to normal operation. Subsequent investigation revealed loose nuts on the connections of the No. 1 and No. 2 auxiliary generator voltage sensor wires that attach to the two auxiliary generator contactor connecting bars. This poor wire connection resulted from the loosening of the installed standard (non-locking) nuts, due to vibration. The poor connection caused a DC power system transient condition that, in turn, resulted in the AHRS flags and loss of the attitude information on the EFIS display. This condition, if not corrected, could cause continuing random transients, especially during turbulence, that could leave only the standby attitude and magnetic compass available for continuing flight.

EMBRAER has issued Service Bulletin 120-024-0031, dated October 21, 1988, which describes procedures for modification of the connection of the voltage sensor wires to the connecting bars at K0035 and K0036 by removing the existing standard nuts and installing self locking nuts (P/N 9161-05), tightened to a torque value of 22 to 26 inch pounds. The service bulletin also describes procedures for the installation of a placard on the left-hand relay box cover specifying the use of self-locking nuts in the connection assembly. The Brazilian CTA, which is the airworthiness authority for Brazil, has issued a Brazilian Airworthiness Directive 88-11-04, dated November 17, 1988, requiring compliance with this service bulletin.

This airplane model is manufactured in Brazil and type certificated in the United States under the provisions of § 21.29 of the Federal Aviation Regulations and the applicable bilateral airworthiness agreement.

Since this situation is likely to exist or develop on other airplanes of the same type design registered in the United States, this AD requires the replacement of two standard nuts with self-locking nuts to secure the No. 1 and No. 2 auxiliary generator control voltage sensor wires to the connecting bars at relays K0035 and K0036, and installation of a placard, in accordance with the service bulletin previously described.

Since a situation exists that requires immediate adoption of this regulation, it is found that notice and public procedure hereon are impracticable, and good cause exists for making this amendment effective in less than 30 days.

The regulations adopted herein will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

The FAA has determined that this regulation is an emergency regulation that is not considered to be major under Executive Order 12291. It is impracticable for the agency to follow the procedures of Order 12291 with respect to this rule since the rule must be issued immediately to correct an unsafe condition in aircraft. It has been further determined that this document involves an emergency regulation under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979). If this action is subsequently determined to involve a significant/major regulation, a final regulatory evaluation or analysis, as appropriate, will be prepared and placed in the regulatory docket (otherwise, an evaluation is not required).

List of Subjects in 14 CFR Part 39

Aviation safety, Aircraft.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends § 39.13 of Part 39 of the Federal Aviation Regulations (14 CFR 39.13) as follows:

PART 39—[AMENDED]

1. The authority citation for Part 39 continues to read as follows:

Authority: 49 U.S.C. 1354(a), 1421 and 1423; 49 U.S.C. 106(g) (Revised Pub. L. 97-449, January 12, 1983); and 14 CFR 11.89.

§ 39.13 [Amended]

2. By adding the following new airworthiness directive:

Empresa Brasileira de Aeronautica, S.A. (Embraer):

Applies to the Model EMB-120 series airplanes, as listed in Embraer Service Bulletin 120-024-0031, dated October 21, 1988, certificated in any category. Compliance required as indicated, unless previously accomplished.

To prevent the loss of essential navigation systems, accomplish the following:

A. Within the next 25 hours time-in-service after the effective date of this AD, accomplish the following, in accordance with Embraer Service Bulletin 120-024-0031, dated October 21, 1988:

1. Install self-locking nuts, P/N LN9161-05, to secure the No. 1 and No. 2 auxiliary generator control voltage sensor wires to the connecting bars at relays K0035 and K0036.

2. Install placard 120-47147-001 on the left-hand relay box cover. The placard shall state, "USE LN9161-05 NUTS FOR K0035 AND K0036 IN PLACE OF ORIGINAL NUTS. SEE MAINTENANCE MANUAL 24-52-00."

B. An alternate means of compliance or adjustment of the compliance time, which provides an acceptable level of safety, may be used when approved by the Manager,

Atlanta Aircraft Certification Office, FAA, Central Region.

Note.—The request should be forwarded through an FAA Principal Maintenance Inspector (PMI), who may add any comments and then send it to the Manager, Atlanta Aircraft Certification Office.

C. Special flight permits may be issued in accordance with FAR 21.197 and 21.199 to operate airplanes to a base in order to comply with the requirements of this AD.

All persons affected by this directive who have not already received the appropriate service information from the manufacturer may obtain copies upon request to EMBRAER, 276 SW. 34th Street, Fort Lauderdale, Florida 33315. This information may be examined at FAA, Northwest Mountain Region, 17900 Pacific Highway South, Seattle, Washington, or FAA, Central Region, Atlanta Aircraft Certification Office, 1669 Phoenix Parkway, Suite 210C, Atlanta, Georgia.

This amendment becomes effective February 15, 1989.

Issued in Seattle, Washington, on January 18, 1989.

Steven B. Wallace,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 89-1992 Filed 1-27-89; 8:45 am]

BILLING CODE 4910-13-M

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14 CFR Part 39

[Docket No. 88-NM-206-AD; Amdt. 39-6128]

Airworthiness Directives; McDonnell Douglas Model DC-9-81, -82, -83, -87, and MD-88 Series Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: This action revises, publishes in the **Federal Register**, and makes effective as to all persons an amendment adopting a new airworthiness directive (AD), portions of which were previously made effective as to all known U.S. owners and operators of McDonnell Douglas Model DC-9-81, -82, -83, -87, and MD-88 series airplanes by individual telegrams. This AD requires a functional test of the horizontal stabilizer takeoff position indicator assembly, a check of the flap and center of gravity indicator dial bonding strength, and replacement of the horizonal stabilizer takeoff position indicator assembly, if necessary. This action is prompted by a report of erroneous inputs to the horizontal stabilizer takeoff position indicator assembly from the center of gravity indicator dial, which caused the assembly to compute an incorrect longitudinal trim position for takeoff. This condition, if not corrected, could result in an incorrect horizontal stabilizer position, which could result in the airplane taking off in an unsafe configuration. This action revises the telegraphic AD by revising certain procedures to be followed for the functional test and bond strength check, revising the interval for the repetitive functional test, providing service information references, and providing for an optional terminating action.

EFFECTIVE DATE: February 15, 1989.

Portions of this AD were effective earlier to all recipients of Telegraphic AD T88-25-51, issued December 16, 1988.

ADDRESSES: The applicable service information may be obtained from McDonnell Douglas Corporation, 3855 Lakewood Boulevard, Long Beach, California 90846, Attention: Director of Publications, CL-100 (54-60). This information may be examined at the FAA, Northwest Mountain Region, 17900 Pacific Highway South, Seattle, Washington, or at the Los Angeles Aircraft Certification Office, 3229 East Spring Street, Long Beach, California.

FOR FURTHER INFORMATION CONTACT: Mr. Robert Stacho, Aerospace Engineer, Systems and Equipment Branch, ANM-131L, FAA, Northwest Mountain Region, Los Angeles Aircraft Certification Office, 3229 East Spring Street, Long Beach, California 90806-2425; telephone (213) 988-5338.

SUPPLEMENTARY INFORMATION: On December 16, 1988, the FAA issued telegraphic AD T88-25-51, applicable to McDonnell Douglas Model DC-9-81, -82, -83, -87, and MD-88 series airplanes, which requires a functional test of the horizontal stabilizer takeoff position indicator assembly, a check of the flap and center of gravity indicator dial bonding strength, and, if necessary, replacement of the horizontal stabilizer takeoff position indicator assembly. That action was prompted by a report that, during takeoff, a Model DC-9-80 series airplane did not rotate with normal elevator control column displacement and required a considerable length of runway to become airborne. Investigation revealed that the center of gravity indicator dial, part number 9934504-517, which is part of the gear assembly, part number 3952203-501, was found to be loose and able to slip, giving erroneous inputs to the horizontal stabilizer takeoff position indicator assembly. This can cause the indicator to compute an incorrect longitudinal trim position for takeoff. If the flight crew were to set the horizontal stabilizer to an incorrect longitudinal trim position, the airplane may not be configured correctly for takeoff. A loose flap indicator dial has also been found on an in-service Model DC-9-80 series airplane, which could also result in an incorrect longitudinal trim position. (The center of gravity and flap indicator dials are adhesively bonded to the internal gears of the horizontal stabilizer takeoff position indicator assembly.) This condition, if not corrected, could result in an incorrect horizontal stabilizer position, which could result in the airplane taking off in an unsafe takeoff configuration.

Since issuance of AD T88-25-51, several affected operators contacted the FAA for approval of alternate means of compliance to some provisions of the AD. Some operators requested that they be allowed to functionally test the horizontal stabilizer takeoff position indicator assembly *daily* instead of prior to the first flight of each day, as required by paragraph A. of AD T88-25-51. Some operators requested that plus or minus ½ degree be allowed in the longitudinal trim display tolerance, instead of the plus or minus ¼ degree tolerance required by paragraph A. of AD T88-25-51. Finally, some operators requested that, if the indicator dials did not show signs of loose bonding, they be allowed to re-rig the horizonal stabilizer takeoff position indicator assembly, instead of replace it, if it did not meet the 6 plus or minus ½ degree requirement during the functional test.

The FAA concurs that conducting the functional test of the horizontal stabilizer position indicator assembly daily, allowing a plus or minus ½ degree tolerance on the longitudinal trim display, and re-rigging the assembly if no loose dials were found, would provide acceptable means of compliance with the requirements of AD T88-25-51. The final rule has therefore been revised to reflect this.

The FAA has reviewed and approved McDonnell Douglas Alert Service Bulletin A27-304, Revision 1, dated December 23, 1988, which provides specific instructions for checking the indicator dial bonding strength, and modification instructions for securing the indicator dials to the wheels of the horizontal stabilizer takeoff position indicator assembly. Since the bonding check instructions in the McDonnell Douglas service bulletin are more explicit than those in AD T88-25-51, those instructions have been incorporated in this final rule. The accomplishment instructions of the service bulletin reference McDonnell Douglas Service Rework Drawing

SR09270010, which provides a means to attach the plastic dial indicator strips to the wheels of the horizontal stabilizer takeoff position indicator assembly with screws at each end of the strips. The final rule has been revised to permit incorporation of this modification described in McDonnell Douglas Service Rework Drawing SR09270010 as an optional terminating action for the requirements of this AD.

Since a situation existed, and still exists, that requires immediate adoption of this regulation, it is found that notice and public procedure hereon are impracticable, and good cause exists for making this amendment effective in less than 30 days.

The regulations adopted herein will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

The Federal Aviation Administration has determined that this regulation is an emergency regulation that is not considered to be major under Executive Order 12291. It is impracticable for the agency to follow the procedures of Order 12291 with respect to this rule since the rule must be issued immediately to correct an unsafe condition in aircraft. It has been further determined that this document involves an emergency regulation under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979). If this action is subsequently determined to involve a significant/major regulation, a final regulatory evaluation or analysis, as appropriate, will be prepared and placed in the regulatory docket (otherwise, an evaluation or analysis is not required).

List of Subjects in 14 CFR Part 39

Aviation safety, Aircraft.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends § 39.13 of Part 39 of the Federal Aviation Regulations as follows:

PART 39—[AMENDED]

1. The authority citation for Part 39 continues to read as follows:

Authority: 49 U.S.C. 1354(a), 1421 and 1423; 49 U.S.C. 106(g) (Revised Pub. L. 97-449, January 12, 1983); and 14 CFR 11.89.

§ 39.13 [Amended]

2. By revising Telegraphic AD T88-25-51, issued December 16, 1988, as follows:

McDonnell Douglas: Applies to McDonnell Douglas Model DC-9-81, -82, -83, -87, and MD-88 series airplanes, certificated in any category. Compliance required as indicated, unless previously accomplished.

To ensure that the airplane horizontal stabilizer is configured correctly for takeoff, accomplish the following:

A. Within 5 calendar days after the effective date of this AD and daily thereafter, perform a functional test of the horizontal stabilizer takeoff position indicator assembly by selecting a center of gravity setting of 13 and a flap setting of 8, and verifying that the longitudinal trim is correctly displayed as 6 plus or minus ½ degrees. If the longitudinal trim displayed is not correct, check the adhesive bond strength of the center of gravity and flap indicator dials as indicated in paragraph B., below.

1. If both indicator dials are firmly bonded to their respective wheels, re-rig the horizontal stabilizer takeoff position indicator assembly in accordance with McDonnell Douglas MD-80 Maintenance Manual, Chapter 27-40-12, step 3, paragraph A, "Test Module."

2. If either the flap or center of gravity indicator dials show signs of loose bonding, or if the assembly cannot be re-rigged to bring it within tolerance, replace the horizontal stabilizer takeoff position indicator assembly prior to further flight.

B. Within 25 calendar days after the effective date of this AD and thereafter at intervals not to exceed 25 days, accomplish both of the following:

1. Check the center of gravity and flap indicator dial adhesive bond strength in accordance with the "Accomplishment Instructions," with the exception of paragraphs F and J, of McDonnell Douglas Service Bulletin A27-304, Revision 1, dated December 23, 1988. If the indicator dials are dislodged or loosened, replace the horizontal stabilizer takeoff position indicator assembly prior to further flight.

2. Perform an adjustment/test of the horizontal stabilizer takeoff position indicator assembly in accordance with McDonnell Douglas MD-80 Maintenance Manual, Chapter 27-40-12, step 3, paragraph A, "Test Module." If the adjustment/test is not successful, check the adhesive bond strength of the center of gravity and flap indicator dials as indicated in paragraph B.1., above.

a. If both indicator dials are firmly bonded to their respective wheels, re-rig the horizontal stabilizer position indicator assembly in accordance with McDonnell Douglas MD-80 Maintenance Manual, Chapter 27-40-12, step 3, paragraph A, "Test Module."

b. If either the flap or center of gravity indicator dials show signs of loose bonding, or if the assembly cannot be re-rigged to bring it within tolerance, replace the horizontal stabilizer takeoff position indicator assembly prior to further flight.

C. Modification of the flap and center of gravity dial indicators in the horizontal stabilizer takeoff position indicator assembly, in accordance with "Repair Action II" of McDonnell Douglas Service Rework Drawing SR09270010, New, dated December 17, 1988, constitutes terminating action for the requirements of this AD.

D. Special flight permits may be issued in accordance with FAR 21.197 and 21.199 to operate airplanes to a base in order to comply with inspection requirements of this AD.

E. An alternate means of compliance or adjustment of the compliance time which provides an acceptable level of safety may be used when approved by the Manager, Los Angeles Aircraft Office, FAA, Northwest Mountain Region.

Note.—The request should be forwarded through an FAA Principal Maintenance Inspector (PMI), who may add any comments and then send it to the Manager, Los Angeles Aircraft Certification Office.

All persons affected by this directive who have not already received the appropriate service documents from the manufacturer, may obtain copies upon request to McDonnell Douglas Corporation, 3855 Lakewood Boulevard, Long Beach, California 90846, Attention: Director of Publications, CL-100 (54-60). These documents may be examined at the FAA, Northwest Mountain Region, 17900 Pacific Highway South, Seattle, Washington, or the Los Angeles Aircraft Certification Office, 3229 East Spring Street, Long Beach, California.

This amendment revises Telegraphic AD T88-25-51, issued December 16, 1988.

This amendment becomes effective February 15, 1989.

Portions of this amendment were effective earlier to all recipients of Telegraphic AD T88-25-51, issued December 16, 1988.

Issued in Seattle, Washington, on January 18, 1989.

Steven B. Wallace,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 89-1991 Filed 1-27-89; 8:45 am]

BILLING CODE 4910-13-M

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Social Security Administration

20 CFR Part 422

[Reg. No. 22]

Organizations and Procedures; Updating and Correcting Rules; Hearings and Appeals Procedures; Disclosure of Information

AGENCY: Social Security Administration, HHS.

ACTION: Final rule.

SUMMARY: We are correcting and updating Subparts C and E of Part 422 of

the Social Security regulations. Subpart C describes the organization and procedures of the Office of Hearings and Appeals (OHA) of the Social Security Administration (SSA). Subpart E describes the availability of information and records from SSA under the Freedom of Information Act (FOIA) provisions.

DATES: These regulations are effective January 30, 1989. We will consider any comments received by March 31, 1989. We will revise and republish these regulations if public comments warrant.

ADDRESS: Comments should be submitted to the Commissioner of Social Security, Department of Health and Human Services, P.O. Box 1585, Baltimore, MD 21235, or delivered to the Office of Regulations, 3–B–4 Operations Bldg., 6401 Security Blvd., Baltimore, MD 21235, between 8:00 a.m. and 4:30 p.m. on regular business days. Comments may be inspected during these same hours by making arrangements with the contact person shown below.

FOR FURTHER INFORMATION CONTACT: Charles H. Campbell, Legal Assistant, Office of Regulations, Social Security Administration, 6401 Security Boulevard, Baltimore, MD 21235, (301) 965–1794.

SUPPLEMENTARY INFORMATION:

Amendments to Subpart C

Pursuant to 5 U.S.C. 552(a), we have published in the **Federal Register** information about the organization and functions of each component of SSA. Subpart C of Part 422 describes the organization and functions of OHA. It provides general information concerning hearings by administrative law judges, review by the Appeals Council, and review by the Federal courts. For detailed information regarding the administrative and judicial review procedures, the regulations found in 20 CFR 404.900 *et seq.*, 416.1400 *et seq.*, and 410.610 *et seq.* should be consulted.

We are amending Subpart C as some of the information contained in this subpart is no longer correct. For example, the current subpart refers to the Bureau of Hearings and Appeals. As of January 5, 1979, the name of this SSA component was changed to the Office of Hearings and Appeals. See 44 FR 17218 *et seq.* (March 21, 1979). We are making these and other similar nonsubstantive changes in Subpart C for reasons of consistency and conformity.

Most of these amendments involve correction of—(1) OHA's mailing address, (2) several cross-references to CFR sections, and (3) out-dated terms and titles. These amendments also involve—(1) deletion of a regulatory provision defining a "presiding officer," a title no longer used to designate the OHA hearing officer who is an administrative law judge appointed pursuant to 5 U.S.C. 3105, (2) deletion of inaccurate provisions that concern beneficiary reimbursement hearings under Part B of title XVIII, (3) updating the requirements with respect to the dollar amounts "in controversy" for the various appeals conducted under titles XI and XVIII of the Act, and (4) the inclusion of additional categories of title XVIII determinations which can be appealed.

Amendments to Subpart E

Subpart E of Part 422 describes the procedures by which a person may request from SSA information or records under the FOIA disclosure provisions codified at 5 U.S.C. 552. These Subpart E provisions supplement SSA's FOIA disclosure rules under Part 401 of this chapter and the rules under 45 CFR 5.1 *et seq.*, which state what material may be disclosed.

We are amending three Subpart E sections to shift the FOIA implementation responsibility within SSA from the Office of Information to the Office of Public Inquiries. In addition, the Director of the Office of Public Inquiries is now the SSA Freedom of Information Officer, and he or she has responsibility for releasing or denying requests for information. This change was made because the scope of the duties and responsibilities of the Office of Public Inquiries made it the SSA organizational component best suited to handle the growing and increasingly complex workload of disclosure requests being filed under the FOIA provisions.

Regulatory Procedures

The Department, even when not required by statute, as a matter of policy generally follows the Administrative Procedure Act notice of proposed rulemaking and public comment procedures specified in 5 U.S.C. 553 in the development of its regulations. The Administrative Procedure Act provides exceptions to its notice and public comment procedures when an agency finds there is good cause for the dispensing of such procedures on the basis that they are impracticable, unnecessary, or contrary to the public interest. We have determined that, under 5 U.S.C. 553(b), good cause exists for waiver of notice of proposed rulemaking and public comment procedures on this regulation, since opportunity for public comment is unnecessary. The reasons why prior notice and comment are unnecessary are the following: First, most of the changes are technical in nature and involve nomenclature changes, the correction of inaccurate cross-references and other information, and the deletion of obsolete information. Second, while we are specifying additional decisions under title XI and title XVIII that can be appealed, these additions simply reflect statutory jurisdictional provisions which must be followed and public comment would have no purpose. Third, the shifting of implementation responsibility from one component to another component within the agency does not require public comment, since this comes within the scope of agency management and the rule provides information for the guidance of the public as required by 5 U.S.C. 552(a)(1)(A). None of these regulations reflects implementation of policy changes.

Executive Order 12291

The Secretary has determined that this is not a major rule under Executive Order 12291, since these revisions are largely technical changes and do not involve any costs. Therefore, a regulatory impact analysis is not required.

Paperwork Reduction Act

These final regulations impose no reporting/recordkeeping requirements subject to Office of Management and Budget clearance.

Regulatory Flexibility Act

We certify that these regulations will not have a significant economic impact on a substantial number of small entities, because the regulations simply involve the correction of terms, cross-references and other information, and the transfer of the FOIA disclosure function from one SSA component to another. Consequently, a regulatory flexibility analysis, as provided in Pub. L. 96–354, the Regulatory Flexibility Act, is not required.

(Catalog of Federal Domestic Assistance Programs; No. 13.802 Social Security—Disability Insurance; No. 13.803 Social Security—Retirement Insurance; No. 13.805 Social Security—Survivors Insurance; No. 13.806 Special Benefits for Disabled Miners; No. 13.807 Supplemental Security Income.)

List of Subjects in 20 CFR Part 422

Administrative practice and procedure, Freedom of information, Organization and functions (government agencies), Social Security.

Dated: September 1, 1988.

Dorcas R. Hardy,

Commissioner of Social Security.

Approved: October 6, 1988.

Otis R. Bowen,

Secretary of Health and Human Services.

Part 422 of Chapter III of Title 20 of the Code of Federal Regulations is amended as follows:

PART 422—ORGANIZATION AND PROCEDURES

1. The Subpart title and authority citation for Subpart C are revised to read as follows:

Subpart C—Procedures of the Office of Hearings and Appeals

Authority: Secs. 205, 221, 1102, 1869, and 1871 of the Social Security Act; 42 U.S.C. 405, 421, 1302, 1395ff, and 1395hh; Sec. 413(b) of the Federal Mine Safety and Health Act of 1977; 30 U.S.C. 923(b).

§§ 422.201, 422.203, 422.205, and 422.210 [Amended]

2. In 20 CFR 422.201, 422.203(b), and 422.205(a), remove the word "Bureau" from the phrase "Bureau of Hearings and Appeals" and add in its place the word "Office".

3. In 20 CFR 422.201, 422.205(f), and 422.210(c) remove the title "a presiding officer" or "presiding officer's" and add in its place the title "an administrative law judge" or "administrative law judge's", as appropriate.

4. In 20 CFR 422.203(b)(1) and 422.205(a) remove the mailing address "P.O. Box 2518, Washington, D.C. 20013" and add in its place the mailing address "P.O. Box 3200, Arlington, VA 22203".

5. In the list below, for each section paragraph indicated in the left column, remove the section cross-reference and government agency title from wherever it appears in the section paragraph and add the correct cross-reference and agency title indicated in the right column.

Section paragraph (20 CFR)	Remove	Add
422.201(a)	404.917 through 404.955	404.929 through 404.983.
422.201(b)	416.1425 through 416.1474	416.1429 through 416.1483.
422.203(a)(3)	405.1531	498.40.
	405.1501(c) and (f)	498.5.
422.203(b)(2)	405.1502(b)(2), (c), (d)(2), and (e)	498.3(b) and (c).
	405.1530, 405.1531	498.40.
	405.2060	417.260.
422.205(a)	Bureau of Health Insurance (as well as the Bureau of Quality Assurance in the case of a determination regarding an end-stage renal disease treatment facility).	Health Care Financing Administration or, as appropriate, the Office of the Inspector General.
	1862(d)(3)	1128(b)(6).
	405.1532	498.42.
	404.946	404.968.
	416.1462	416.1468.
	405.1562 and 405.2061	498.82 and 417.261.
422.205(b)	404.947	404.967 or 404.969.
	416.1463 or 416.1464	416.1467 or 416.1469.
	405.2061	417.261 or 473.46.
422.205(d)	405.1563 (first reference)	498.82 or 1001.128.
	405.1563 (second reference)	498.83.
	Health, Education, and Welfare	Health and Human Services.
422.210(d)	Health, Education, and Welfare	Health and Human Services.

§ 422.201 [Amended]

6. Section 422.201 is amended by revising paragraphs (c) and (d) to read as follows:

* * * * *

(c) Title XVIII of the Act, 42 CFR 405.720 through 405.750, 498.17, 498.40 through 498.95, 417.260 through 417.263, 473.40 through 473.46, and 1001.128. For regulations relating to hearings under title XVIII for a provider of services dissatisfied with the intermediary's determination as to the amount of program reimbursement due to or from the provider, see 42 CFR 405.1809 through 405.1890. Such hearings are conducted by a hearing officer designated by the intermediary or by the Provider Reimbursement Review Board, as appropriate.

(d) Part B of title IV of the Federal Mine Safety and Health Act of 1977 as amended, §§ 410.630 through 410.670.

7. Section 422.203 is amended by revising paragraphs (a)(1)(iii), (a)(2)(ii), and (c) and by removing paragraph (d) to read as follows:

§ 422.203 Hearings.

(a) * * *

(1) * * *

(iii) As to entitlement under Part A or Part B of title XVIII of the Act, or as to the amount of benefits under Part A of such title XVIII (where the amount in controversy is $100 or more); or of health services to be provided by a health maintenance organization without additional costs (where the amount in controversy is $100 or more); or as to the amount of benefits under Part B of title XVIII (where the amount in controversy is $500 or more); or as to a determination by a peer review organization (PRO) under title XI (where the amount in controversy is $200 or more); or as to certain determinations made under section 1154, 1842(1), 1866(f)(2), or 1879 of the Act; any party to such a determination may, pursuant to the applicable section of the Act, file a written request for a hearing on the determination. After a reconsidered determination of a claim for benefits under Part B of title IV (Black Lung benefits) of the Federal Mine Safety and Health Act of 1977 (30 U.S.C. 921 through 925), a party to the determination may file a written request for hearing on the determination.

* * * * *

(2) * * *

(ii) A determination terminating an agreement with a provider of services, such institution, facility, agency, or clinic may, pursuant to section 1866 of the Act, file a written request for a hearing on the determination.

* * * * *

(c) *Hearing decision or other action.* Generally, the administrative law judge will either decide the case after hearing (unless hearing is waived) or, if appropriate, dismiss the request for hearing. With respect to a hearing on a determination under paragraph (a)(1) of this section, the administrative law judge may certify the case with a recommended decision to the Appeals Council for decision. If the determination on which the hearing request is based relates to the amount of benefits under Part A or B of title XVIII

of the Act, to health services to be provided by a health maintenance organization without additional costs, or to PRO determinations, the administrative law judge shall dismiss the request for hearing if he or she finds that the amount in controversy is less than $100 for appeals arising under Part A or concerning health maintenance organization benefits; less than $200 for appeals arising from PRO determinations; and less than $500 for appeals arising under Part B. Hearing decisions must be based on the evidence of record, under applicable provisions of the law and regulations and appropriate precedents.

8. Section 422.210 is amended by revising the section title and paragraph (a) to read as follows:

§ 422.210 Judicial review.

(a) *General.* A claimant may obtain judicial review of a decision by an administrative law judge if the Appeals Council has denied the claimant's request for review, or of a decision by the Appeals Council when that is the final decision of the Secretary. A claimant may also obtain judicial review of a reconsidered determination, or of a decision of an administrative law judge, where, under the expedited appeals procedure, further administrative review is waived by agreement under §§ 404.926, 410.629d, or 416.1426 of this chapter or 42 CFR 405.718a–e as appropriate. For judicial review as to the amount of benefits under Part A or Part B of title XVIII of the Social Security Act, or of health services to be provided by a health maintenance organization without additional cost, the amount in controversy must be $1,000 or more as provided under section 1869(b) and section 1876(c)(5)(B) of the Act. For judicial review of a determination by a PRO, the amount in controversy must be $2,000 or more. An institution or agency may obtain judical review of a decision by the Appeals Council that it is not a provider of services, or of a decision by the Appeals Council terminating an agreement entered into by the institution or agency with the Secretary (see section 1866(b)(2) of the Act). The Social Security Act does not provide for a right to judicial review of a final decision of the Secretary regarding the status of an entity which is not a "provider of services", such as an independent laboratory. Providers of services or other persons may seek judicial review of a final administrative determination made pursuant to section 1128(b)(6) of the Act. There are no amount-in-controversy limitations on these rights of appeal.

* * * * *

Subpart E—Availability of Information and Records to the Public

9. The authority citation for Subpart E is revised to read as follows:

Authority: Secs. 205, 1102, 1106, and 1871 of the Social Security Act; 42 U.S.C. 405, 1302, 1306, and 1395hh; Sec. 413(b) of the Federal Mine Safety and Health Act of 1977; 30 U.S.C. 923(b), 5 U.S.C. 552 and 552a, 8 U.S.C. 1360, 26 U.S.C. 6103.

§§ 422.426, 422.428, 422.444, and 422.445 [Amended]

10. In §§ 422.426, 422.428, 422.444 and 422.445, remove the phrase "Office of Information" where it appears and add in its place the phrase "Office of Public Inquiries".

[FR Doc. 89–2031 Filed 1–27–89; 8:45 am]
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DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

23 CFR Part 635

[FHWA Docket No. 87–15]

RIN 2125–AB87

Construction and Maintenance; Contract Procedures; Standardized Contract Clauses

AGENCY: Federal Highway Administration (FHWA), DOT.

ACTION: Final rule.

SUMMARY: The FHWA is revising its regulations on contract procedures to implement the provision mandated by section 111(c) of the Surface Transportation and Uniform Relocation Assistance Act (STURAA) of 1987 which became law on April 2, 1987. Section 111(c) amends section 112 of Title 23, United States Code (23 U.S.C.), to direct the Secretary of Transportation to issue regulations establishing and requiring certain standardized contract clauses in all Federal-aid highway contracts unless otherwise provided for by State law. The standardized contract clauses will provide for the equitable adjustment of contract terms: (1) Where site conditions differ from those indicated in the contract, (2) where work has been suspended by order of the contracting agency (other than a suspension of work caused by the fault of the contractor or by weather), and (3) where there are significant changes in the character of the work specified in the contract.

EFFECTIVE DATE: May 1, 1989. The provisions contained in this final rule apply to all Federal-aid contracts authorized to proceed with the construction stage on or after May 1, 1989.

FOR FURTHER INFORMATION CONTACT: Mr. William A. Weseman, Chief, Construction and Maintenance Division, (202) 366–0392 or Mrs. Kathleen Markman, Office of the Chief Counsel, (202) 366–0780. Office hours are from 7:45 a.m. to 4:15 p.m., ET, Monday through Friday, except for legal holidays.

SUPPLEMENTARY INFORMATION: Under the Federal-aid highway program, federally assisted projects are generally constructed by private contractors under contract to the State highway agencies (SHAs) or local governmental agencies. Payment to the contractors is based on the amount of work performed in accordance with the terms of the contract. The FHWA reimburses the statutory Federal share of the costs to the SHAs as the projects are constructed and the costs are incurred. The plans, specifications, and estimates (PS&E) are prepared by the SHAs or their representatives. Due to the nature of subsurface conditions, highway construction, and conditions under which the work is performed, the geotechnical engineer and the designer cannot always accurately determine and describe in the contract documents all the subsurface or latent conditions existing at project sites. Consequently, in some instances the subsurface conditions encountered during construction may be different from those described in the geotechnical reports or indicated in the plans. These unanticipated conditions may cause a change in construction costs.

There also may be situations which develop during construction requiring the contracting agency (SHA or local governmental agency) to order the contractor to slow down or stop the progress of construction through no fault of the contractor and not due to weather conditions. These situations may occur, for example, when a defect in the design is found and the contracting agency needs time to study the problem and correct the design or when a third party, not part of the Federal-aid contract, does not perform as originally anticipated. These slowdowns or stoppages in the work may cause a change in construction costs.

There also may be situations encountered during construction which require the contracting agency to make alterations in the design. When these

occur, the contract quantities are normally changed to reflect the alteration, and the contract is modified accordingly. Some of these alterations could significantly increase or decrease the contractor's production costs, in addition to providing a change in the amount of work required by the contract.

The unanticipated variations in contract costs caused by any of the above mentioned situations may in some instances add up to sizable amounts of money and constitute an additional risk to either the contractor or contracting agency. In those States where the contracting agency shifts the responsibility of such costs to the contractor, the contract documents normally do not provide for a mechanism to allow the contracting agency to legally adjust the contract to recover a savings due to a decrease in costs or to compensate the contractor for an increase. Thus, the contracting agency does not normally recover for the decreases, and the contractor can only recover for the increases by either anticipating such costs and increasing the amount bid by including a contingency amount in the bid or by submitting a claim. Claims and the possible resulting litigation process can be quite lengthy and costly and often yield unsatisfactory results for both parties. On the other hand, the contractor's contingency amount when included in the bid may exceed any actual additional costs, and may result in an unreasonable windfall for the contractor, and may unnecessarily increase the construction costs to the public.

Previous FHWA policy did not mandate any specific contract provisions to address resolution of these situations, but encouraged the adoption of contract language, such as clauses 104.02 and 108.07 of the 1984 American Association of State Highway and Transportation Officials (AASHTO) "Guide Specifications for Highway Construction" (available from AASHTO, 444 North Capitol Street NW., Suite 225, Washington, DC 20001). These clauses provided for an equitable adjustment of the contract terms in the event of unanticipated variations in contract costs. Section 111(c) of the STURAA of 1987, Pub. L. 100–17, 101 Stat. 132 and 147, however, made it a requirement for the Secretary of Transportation to develop and require to be included in Federal-aid contracts, unless otherwise provided for by State law, a standardized contract clause addressing the equitable adjustment of the contract terms for oiffering site conditions, material changes in the scope of work, and suspensions of work ordered by the contracting agency other than those caused by the fault of the contractor or by weather.

The requirements contained in section 111(c) of the STURAA of 1987 were originally considered for adoption by the 99th Congress (H.R. 3129), but a bill was never enacted because the House and Senate Committees conferees were unable to reach agreement. A similar bill, subsequently considered and adopted by the 100th Congress, was accompanied by only an abbreviated House Committee Report. Therefore, the 1986 House Committee Report (H.R. Rep. No. 665, 99th Congress, 2d Sess. 8–11(1986)] is the primary legislative history of section 111(c). The final rule takes into consideration the congressional intent as shown in this House Committee Report, the comments received by the FHWA on the Notice of Proposed Rulemaking (NPRM), and other available published information.

Section 111(c) of the STURAA of 1987 applies to all projects approved by the FHWA under Section 106 of Title 23, United States Code (23 U.S.C. 106, Plans, Specifications, and Estimates). However, section 106 provides that PS&E's administered under section 117 of Title 23, United States Code (23 U.S.C. 117, Certification Acceptance) are exempted from the FHWA approval requirements. Therefore, the provisions of section 111(c) of STURAA of 1987, do not apply to projects administered under an approved certification acceptance plan.

Highway contractor organizations have long voiced their support for standardized changed conditions clauses. They have felt that contractors should not have to assume the risk for the possibility of differing site conditions, significant changes in the character of the work, or suspensions of work for the convenience of the contracting agency. The 1986 House Committee Report articulated this same view in stating that contractors should be able to bid a project with the expectation of being compensated for all the acceptable work which is performed in accordance with the terms of the contract. In addition, the report indicates that a standardized arrangement would provide more uniformity among the States and eliminate much of the frustration being experienced by contractors who deal with several States at the same time.

An NPRM was published in the **Federal Register** on December 1, 1987, at 52 FR 45645, in which the FHWA requested comments on the proposed regulation. Originally, comments were to be received by February 1, 1988; however, pursuant to a request received, the comment period was extended to March 1, 1988, by notice published in the **Federal Register** on February 10, 1988, at 53 FR 3897.

Discussion of Comments

General

Thirty-one written comments were received in the docket. Of the 31 comments, 5 were from private contractors and contractor organizations. The remaining 26 comments were from SHAs. All the contractors and contractor organizations favored the proposed rule and recommended minor revisions. Ten of the SHAs indicated a strong objection to the rule.

Several commenters revealed apprehension and concern that the proposed regulation will result in a constant flow of notifications from the contractors in an attempt to convert unit price, competitively bid contracts into cost-plus contracts. A comment was also made to the effect that the competitive bidding process will be deteriorated, reducing quality and increasing costs. The FHWA knows of no factual information to support the statements made by these commenters. On the contrary, there are a number of States which are presently using similar specifications. These States have not reported major problems in the administration of such provisions in their contracts.

Several questions were raised in regard to the future administration of the projects containing the standardized contract clauses such as the type of written notices to be used, allowable costs, etc. As with any other specification, SHA's are expected to handle the administration of the standardized contract clauses according to their standard administrative procedures, such as those contained in SHAs construction manuals and by other sections of the SHAs' standard specifications dealing with methods of payments, variations in the work, etc.

Several commenters disagreed with the statement made in the preamble of the NPRM in regard to the possible economic impacts of the regulation. The preamble indicated that the regulation should have a positive economic impact because it "should: (1) Reduce the construction costs in general by reducing the uncertainties which the contractor must price during the bidding process, (2) reduce the number of claims reaching litigation thus reducing the

legal expenses of both the contractors and contracting agencies, and (3) promote a better working relationship between the contractors and contracting agencies." The commenters indicated that, contrary to be preamble, the regulation will have an adverse economic impact and will most likely increase the construction costs of Federal-aid projects. Some commenters suggested delaying the implementation of the final rule until the adverse effects of the action are studied in greater detail. Another commenter indicated that the regulation will increase the number of claims that reach litigation.

The statement regarding the positive effects of the rule originated with the House Public Works Committee Bill (H.R. 3129) Report. The FHWA does not have information which would support for rebut this statement. Nevertheless, the possible economic impacts of the regulation were considered and it was concluded that, even if the number of claims increased, the resultant increase in project costs would most likely not be sufficient to trigger a full regulatory evaluation. A full regulatory evaluation recommended by some commenters was, therefore, not considered warranted.

Some commenters suggested amending the regulation to indicate that if the contractor disagrees with the amount of the adjustment as determined by the engineer, the contractor would be allowed to perform the work on a force account basis. It is not intented that the regulation preempt force account procedures provided by State specifications. Force account is a viable procedure to reimburse the contractor for contract adjustments, as appropriate. It is the FHWA policy, however, that the use of force account be keep to a minimum. Normally, force account is considered satisfactory when the extent of the work cannot be quantified with any degree of accuracy or an agreement cannot be reached with the contractor on appropriate unit proces for work to be performed.

Several commenters suggested revising the term "equitable adjustment" mainly because the term could be subject to several different interpretations and could lead to litigation. It is agreed that the adjective "equitable" does not add any substance to the regulation since any adjustments to the contract proposed by the engineer should, in effect, be fair and representative of the cost of the increased or decreased work. Therefore, the word "equitable" has been deleted and only the term adjustment is used in the final rule.

Several commenters requested assurances from the FHWA that Federal funds will participate on all amounts paid to contractors under the proposed regulation. Standard Federal-aid policy does not provide for such blanket participation. Federal participation on adjustments made under the standardized contract clauses will be considered on its own merits as is normally done with other proposed adjustments in Federal-aid highway projects.

A comment was made to explicitly exclude any reimbursement for loss of anticipated profits. The final rule includes language which clarifies that no reimbursement will be made for loss of anticipated profits. This position is consistent with longstanding FHWA policy to not participate in loss of anticipated profits.

Some commenters expressed their opinions as to what should constitute the basis for extra compensation and/or contract time. It is not the intention of the regulation to specify the type of contract adjustment to be allowed in any one specific situation. Any contract adjustment should be justifiable and fair compensation for increases or decreases caused by the changed contract conditions.

One commenter expressed a concern regarding use of the standardized clauses in a contract with end-result specifications. The concern was that a contractor who underestimates a project where differing site conditions are later found would be able to offset his/her misjudgment. There may be situations in which a differing site condition found during construction could present a contractor the opportunity to attempt recovery from bidding errors and/or wrong assumptions made during the bidding of the project. For this reason, it is incumbent upon the SHAs to assure a careful and detailed review of all apparent low bids to detect any unbalancing and/or bidding errors. The use of good contract administration methods and engineering judgment is essential for the successful administration of any project to assure that contract adjustments, whether an increase or decrease, reflect only the changed condition and do not constitute an unwarranted monetary gain or loss to the contractor.

One commenter suggested amending the regulation to make reference to the Contract Disputes Act of 1978 (Pub. L. 95–563, 92 Stat. 2383) to allow the contractors to carry any dispute beyond the engineer's decision. The Contract Disputes Act of 1978 is only applicable to Direct Federal procurement contracts; thus, it does not apply to Federal-aid contracts which are administered by the SHAs or the local governmental agencies. Further, the engineer is expected to render a fair decision closely representing the differential in costs caused by the changed contract condition. In the event of a subsequent dispute, since the engineer's decision is an administrative action, the contractor may still resort to the judicial system.

One commenter suggested making provision in the regulation to cover instances where the SHA would consider it appropriate to provide for an allocation of risks in the contract. Upon consideration of the suggestion, and a reexamination of the statutory authority of the Secretary, it was determined that the Secretary lacks the authority to waive the requirements of section 111(c) for any one project. The final rule must, therefore, be applicable to every Federal-aid highway project approved under 23 U.S.C. 106.

Several commenters suggested including permissive language in the final rule which would permit the SHAs to make changes in the standardized contract clauses to accommodate the language in their respective standard specifications. Other commenters indicated that section 111(c) requires the Secretary to only establish guidelines to be used by the States in the preparation of the clauses to be used in Federal-aid highway contracts. It is the clear intent of Congress, based on an objective reading of the statutes and the conference report, that standardized contract clauses be utilized by all States, unless otherwise provided for by State statute. The States' option to adopt a clause or clauses different from the one established by the Secretary or to not adopt a clause at all was clearly established by Congress in the Limitation of Applicability of section 111(c).

Section 111(c) does not place any limitation on the timing of the enactment of State statutes requiring or excluding the inclusion of the standardized contract clauses. Likewise, the final rule permits the States to enact and make effective such State statutes at any time. Thus, the standardized contract clauses, established under this rule, shall be inserted by the SHAs in Federal-aid contracts approved under 23 U.S.C. 106 until otherwise provided for by State statute.

Nearly half of the SHAs have already adopted changed conditions clauses. Many of them use language similar to the 1984 AASHTO "Guide Specifications for Highway Construction" or to the Federal

Acquisition Regulations (FAR). In order to provide as much continuity as possible, and in keeping with the principles of federalism, the standardized contract clauses of the final rule have been developed following closely, where possible, the language of both the AASHTO Guide Specifications and the FAR. (The FAR is contained in 48 CFR Parts 1 to 99, and may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. The FAR is mandatory only for contracts for which the Federal Government is the contracting agency. This is not the situation in the Federal-aid highway program; therefore, compliance with the FAR is not a requirement.)

In 1988, AASHTO adopted and published new Guide Specifications which contain language that is very similar to that contained in the clauses of the final rule. The differences between the final rule and the new AASHTO Guide Specifications are in the area of impact costs (generally not recognized by AASHTO) and editorial changes by AASHTO needed for conformance to the language in other sections of the Guide Specifications. (Impacts costs, also known as "ripple damages," are increased costs attributable to the changed contract conditions but are not part of the changed work.)

Section 635.131(a)(1)

One commenter suggested deleting the words "latent" and "unknown" from the regulation. These words are used to mean hidden to the naked eye, not known at the time of bidding, and as such have not been deleted.

Several commenters suggested not recognizing impact costs. Section 635.131(a)(1), as published in the NPRM, provided for impact costs. Upon a re-examination of the committee report, it is agreed that the congressional purpose "to take at least some of the gamble on subsurface conditions out of the bidding" can be accomplished with the least amount of federalism impact if impact costs are not recognized as a mandatory contract adjustment item. In addition, the congressional mandate is to produce and require a clause addressing the differing site conditions in an equitable manner. It is felt this mandate can be accomplished without mandating the inclusion of impact costs. For these reasons, the final rule contains a new optional paragraph, § 635.131(a)(1)(iv) which excludes impact costs from consideration. Since several of the SHAs presently recognize impact costs in their assessment of differing site conditions and in keeping with the principle of Executive Order 12612 on "Federalism," it is the intention that this final rule not preclude the continuation of such practice. These SHAs, therefore, have the option to continue to recognize impact costs as provided for in their standard specifications and contract procedures by deleting paragraph 635.131(a)(1)(iv).

The language of § 635.131(a)(1), as contained in the final rule, clarifies that either party to the contract is entitled to request an adjustment due to a differing site condition. The adjustment may be to fairly compensate the contractor or benefit the State; however, no adjustment in favor of the contractor will be allowed unless the contractor notifies the contracting agency in writing prior to performance of the affected work or disturbing the alleged differing site conditions. The language of § 635.131(a)(1) as contained in the NPRM was also revised to clarify that the contractor will be notified of the engineer's determination. Several editorial changes were made as well.

Section 635.131(a)(2)

Several commenters suggested that impact costs not be recognized. Unlike the differing site conditions clause in this instance, the FHWA believes that it must provide for the impact costs and effects of State-mandated suspensions or delays of work in order to accomplish the congressional intent. Therefore, the clause was not changed as suggested by the commenters.

Several commenters suggested that § 635.131(a)(2) be clarified to indicate that it only applies to written suspensions of work and/or delays. The clause has been amended to clarify that the suspensions and delays affected by the clause are those in writing.

Conversely, other commenters recommended adding a provision for constructive suspensions and delays (where the contracting agency causes a suspension or delay due to action or inaction, without issuing a written suspension order). As discussed in the NPRM, it is not the intention of the regulation to expand this clause to include such suspensions and delays. However, some of the SHAs presently recognize constructive suspensions and delays as well as those in writing. For this reason, the final rule does not preclude the continuation of such practice and SHAs, thus, have the option to recognize constructive suspensions and delays as they may choose in their standard specifications and contract administration procedures. Such coverage would, of course, be in addition to that provided by the written suspensions and delays provisions of this section.

One commenter suggested amending the regulation to clarify that the suspensions of work clause applies only if the suspension affects the controlling operation and is not caused by the contractor or a third party. It was also suggested that no additional compensation be provided for any suspensions or delays during a reasonable period of time necessary to evaluate and respond to any "differing site conditions" found. The regulation has been written on the basis that the effects of any suspension or delay ordered in writing by the contracting agency will be evaluated in accordance with recognized and accepted methods. Such methods normally make use of the contractor's planned construction schedule and take into consideration any effects on the controlling operation(s). It is not intended that the regulation exclude suspensions or delays caused by third parties if these are the result of a written instruction by the contracting agency. The delays caused by third parties or a differing site condition are to be considered and evaluated on their own merits on a case-by-case basis.

With a few exceptions, the suspensions of work clause in the 1988 AASHTO Guide Specifications is similar to the FAR. The main difference is that AASHTO does not recognize "constructive suspensions." The FAR does. The suspensions of work clause of the final rule, as previously discussed, follows the AASHTO approach and does not recognize constructive suspensions.

The clause is consistent with both AASHTO and the FAR in not allowing the recovery of profit on any additional costs caused by the suspension or delay, and requiring that suspensions must be for unreasonable periods. Thus, recognized suspension periods would not include brief customary suspensions inherent to highway construction for reasons such as the collection of material samples, testing of materials, approvals of shop drawings and material sources, etc., and other reasonable and customary suspensions necessary for the orderly supervision of construction by the contracting agency.

As previously noted, the language of § 635.131(a)(2) as contained in the NPRM has been revised in the final rule to clarify that suspensions will be in writing. Also to clarify that the contractor will be notified of the engineer's determination, to delete the engineer's reasons to suspend work because this is normally addressed by

SHAs in other portions of their standard specifications, and to make general editorial changes.

Section 635.131(a)(3)

Many commenters indicated that the regulation contained several undefined terms which may result in controversy and litigation. Others recommended that § 635.131(a)(3) be modified to specify the threshold increase or decrease that would justify a request for an adjustment to the contract based on changed production costs. The majority of these commenters suggested a threshold of 20 to 25 percent change in the quantity of a major item of work. The AASHTO Guide Specifications defines a major item of work as an item whose total original contract cost exceeds 10 percent of the total original contract amount.)

The NPRM explained that a threshold amount had not been included in the regulation because this is normally defined in the contracting agencies' standard specifications. However, upon further consideration and in view of the comments received, the final rule now includes a definition for the term "significant change" which incorporates threshold amounts.

Although the 1988 AASHTO Guide Specifications do not contain a written definition for "significant change" they do contain a recommendation that a threshold amount of 25 percent change in the quantity of a major item of work be used to denote such changes. It also sets a cap of 25 percent maximum change in the contract unit prices. The FAR, on the other hand does not establish a cap amount on unit prices and specifies the threshold amounts at 15 percent of the quantity of any item of work.

The approach used in the final rule is similar to AASHTO in that a threshold amount of 25 percent change in the quantity of a major item of work is specified. However as in the FAR, a cap on the amount of change in the unit price has not been established. In addition, the final rule clarifies that the term "significant change" also applies to situations when the character of the changed work differs materially in kind or nature from the work as originally proposed.

Section 635.131(a)(3) as published in the NPRM provided for impact costs to the extent that the impacted work is part of the contract. This is in accordance with the congressional intent in the Conference Report and is not changed in the final rule.

The NPRM noted that the standardized clause in § 635.131(a)(3) was not intended to cover constructive change orders. (A constructive change order occurs when the contracting agency causes a change but does not issue a written order.) Several commenters agreed that the clause should not provide for constructive changes, but at least one commenter suggested adding such a provision. The clause has been amended in the final rule to clarify that the changes affected by the standardized clause are only those in writing. However, several SHAs presently recognize constructive changes as well as those in writing. The final rule does not preclude the continuation of such a practice. Those SHAs may continue to recognize constructive changes as provided for in their standard specifications and contract administration procedures in addition to the written changes of work as provided for in § 635.131(a)(3).

Additional changes to § 635.131(a)(3) as it appeared in the NPRM include deletion of the terms "material" and "scope" and the substitution in their place of the terms "significant" and "character." The term "material" was changed to clarify the title of the clause. The work "scope" was changed to read "character" to avoid conflict with the States' standard specifications.

In addition, § 635.131(a)(3) was amended to clarify the exclusion of reimbursement for loss of anticipated profits. Several other changes, editorial in nature, were also made for clarification.

Section 635.131(b)

Some commenters interpreted section 111(c) of the STURRA of 1987 to allow the SHAs to adopt, by State statute, language of their choice for any of the three clauses without a determination by the Division Administrator that the State clauses are comparable to the clauses contained in the final rule and took exception to the requirement as it was presented in the NPRM. Upon further consideration and reexamination of the committee report and the provisions of section 111(c) of the STURRA of 1987, the commenters' interpretation that the Division Administrator's determination of comparability is not necessary was found to have merit. The final rule reflects this determination. States may adopt any language for the standardized contract clauses or prohibit any one or more of the clauses as long as it is done under the mandate of a specific State statute concerning changed contract conditions. Such clause or clauses, however, must be in conformance with 23 U.S.C., 23 CFR, and other Federal statutes and regulations as appropriate and will be subject to the Division Administrator's approval as part of the PS&E.

The FHWA has determined that this document does not contain a major rule under Executive Order 12291 or a significant regulation under the regulatory policies and procedures of the Department of Transportation. This rulemaking action has been prepared in order to implement a statutory mandate. That mandate requires the imposition of new requirements on State and local governments with the inclusion of standardized contract clauses in all Federal-aid highway contracts unless the State has developed and implemented, by statute, language of its choice for any of the clauses or adopts or has adopted a statute which does not permit inclusion of such clause or clauses. A full regulatory evaluation is not required because of the ministerial nature of this action. However, potential regulatory impacts have been addressed, as appropriate, in the development of this final rule.

Under the criteria of the Regulatory Flexibility Act (Pub. L. 96-354), the FHWA hereby certifies that this final rule will not have a significant economic impact on a substantial number of small entities.

A regulatory information number (RIN) is assigned to each regulatory action listed in the Unified Agenda of Federal Regulations. The Regulatory Information Service Center publishes the Unified Agenda in April and October of each year. The RIN contained in the heading of this document can be used to cross-reference this action with the Unified Agenda.

This action has been analyzed in accordance with the principles and criteria contained in Executive Order 12612, and it has been determined that the final rule does not have sufficient federalism implications to warrant the preparation of a federalism assessment.

In consideration of the foregoing, the FHWA hereby amends Part 635, Subpart A of Chapter I of Title 23, Code of Federal Regulations, as set forth below.

(Catalog of Federal Domestic Assistance Program Number 20.205, Highway Planning and Construction. The regulations implementing Executive Order 12372 regarding intergovernmental consultation on Federal programs and activities apply to this program)

List of Subjects in 23 CFR Part 635

Government contracts, Grant programs-transportation, Highway and roads.

Issued on January 23, 1989.

Robert E. Farris,

Federal Highway Administrator.

The FHWA hereby amends 23 CFR Part 635, Subpart A, as follows:

PART 635—CONSTRUCTION AND MAINTENANCE

Subpart A—Contract Procedures

1. The authority citation for Part 635 continues to read as follows:

Authority: 23 U.S.C. 112, 113, 114, 117, 128, and 315; 31 U.S.C. 6506; 42 U.S.C. 3334, 4601 *et seq.*; 49 CFR 1.48(b).

2. Part 635, Subpart A is amended by adding a new § 635.131 to read as follows:

§ 635.131 Differing site conditions, suspensions of work and significant changes in the character of work.

(a) Except as provided in paragraph (b) of this section, the following contract clauses shall be made part of, and incorporated in, each highway construction project approved under 23 U.S.C. 106:

(1) *Differing site conditions.* (i) During the progress of the work, if subsurface or latent physical conditions are encountered at the site differing materially from those indicated in the contract or if unknown physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the contract, are encountered at the site, the party discovering such conditions shall promptly notify the other party in writing of the specific differing conditions before they are disturbed and before the affected work is performed.

(ii) Upon written notification, the engineer will investigate the conditions, and if he/she determines that the conditions materially differ and cause an increase or decrease in the cost or time required for the performance of any work under the contract, an adjustment, excluding loss of anticipated profits, will be made and the contract modified in writing accordingly. The engineer will notify the contractor of his/her determination whether or not an adjustment of the contract is warranted.

(iii) No contract adjustment which results in a benefit to the contractor will be allowed unless the contractor has provided the required written notice.

(iv) No contract adjustment will be allowed under this clause for any effects caused on unchanged work. (This provision may be omitted by the SHAs at their option.)

(2) *Suspensions of work ordered by the engineer.* (i) If the performance of all or any portion of the work is suspended or delayed by the engineer in writing for an unreasonable period of time (not originally anticipated, customary, or inherent to the construction industry) and the contractor believes that additional compensation and/or contract time is due as a result of such suspension or delay, the contractor shall submit to the engineer in writing a request for adjustment within 7 calendar days of receipt of the notice to resume work. The request shall set forth the reasons and support for such adjustment.

(ii) Upon receipt, the engineer will evaluate the contractor's request. If the engineer agrees that the cost and/or time required for the performance of the contract has increased as a result of such suspension and the suspension was caused by conditions beyond the control of and not the fault of the contractor, its suppliers, or subcontractors at any approved tier, and not caused by weather, the engineer will make an adjustment (excluding profit) and modify the contract in writing accordingly. The engineer will notify the contractor of his/her determination whether or not an adjustment of the contract is warranted.

(iii) No contract adjustment will be allowed unless the contractor has submitted the request for adjustment within the time prescribed.

(iv) No contract adjustment will be allowed under this clause to the extent that performance would have been suspended or delayed by any other cause, or for which an adjustment is provided for or excluded under any other term or condition of this contract.

(3) *Significant changes in the character of work.* (i) The engineer reserves the right to make, in writing, at any time during the work, such changes in quantities and such alterations in the work as are necessary to satisfactorily complete the project. Such changes in quantities and alterations shall not invalidate the contract nor release the surety, and the contractor agrees to perform the work as altered.

(ii) If the alterations or changes in quantities significantly change the character of the work under the contract, whether or not changed by any such different quantities or alterations, an adjustment, excluding loss of anticipated profits, will be made to the contract. The basis for the adjustment shall be agreed upon prior to the performance of the work. If a basis cannot be agreed upon, then an adjustment will be made either for or against the contractor in such amount as the engineer may determine to be fair and equitable.

(iii) If the alterations or changes in quantities do not significantly change the character of the work to be performed under the contract, the altered work will be paid for as provided elsewhere in the contract.

(iv) The term "significant change" shall be construed to apply only to the following circumstances:

(A) When the character of the work as altered differs materially in kind or nature from that involved or included in the original proposed construction or

(B) When a major item of work, as defined elsewhere in the contract, is increased in excess of 125 percent or decreased below 75 percent of the original contract quantity. Any allowance for an increase in quantity shall apply only to that portion in excess of 125 percent of original contract item quantity, or in case of a decrease below 75 percent, to the actual amount of work performed.

(b) The provisions of this section shall be governed by the following:

(1) Where State statute does not permit one or more of the contract clauses included in paragraph (a) of this section, the State statute shall prevail and such clause or clauses need not be made applicable to Federal-aid highway contracts.

(2) Where the State highway agency has developed and implemented one or more of the contract clauses included in paragraph (a) of this section, such clause or clauses, as developed by the State highway agency may be included in Federal-aid highway contracts in lieu of the corresponding clause or clauses in paragraph (a) of this section. The State's action must be pursuant to a specific State statute requiring differing contract conditions clauses.

[FR Doc. 89-2039 Filed 1-27-89; 8:45 am]

BILLING CODE 4910-22-M

DEPARTMENT OF THE TREASURY

Internal Revenue Service

26 CFR Part 1

[T.D. 8236]

Allocation and Apportionment of Deduction for State Income Taxes; Correction

AGENCY: Internal Revenue Service, Treasury.

ACTION: Correction to temporary regulations.

SUMMARY: This document contains a correction to the Federal Register publication for Monday, December 12, 1988, beginning at 53 FR 49873 of the temporary regulations (T.D. 8236). The temporary regulations relate to the allocation and apportionment of deductions for state income taxes in computing taxable income from sources inside and outside the United States.

FOR FURTHER INFORMATION CONTACT: David F. Chan of the Office of Associate Chief Counsel (International), (202) 634–5404 (not a toll-free number).

SUPPLEMENTARY INFORMATION:

Background

On December 12, 1988, temporary regulations relating to the allocation and apportionment of deductions for state income taxes in computing taxable income from sources inside and outside the United States were published in the Federal Register (53 FR 49873). The text of the temporary regulations served as the text of the proposed regulations cross-referenced in the Notice of Proposed Rulemaking in the Proposed Rules section of the same issue of the Federal Register.

Need for Correction

As published, the temporary rules contain typographical errors which may prove to be misleading and are in need of correction.

Correction of Publication

Accordingly, the publication of the temporary rules (T.D. 8236), which was the subject of FR Doc. 88–28460 (53 FR 49873), is corrected as follows:

1. In the preamble, under the heading "DISCUSSION", in subheading "Section 1.861–8", on page 49873, column 2, line 2, the language "reserving paragraph (e)(b) of § 1.861–8," should read "reserving paragraph (e)(6) of § 1.861–8,".

§ 1.861–8T [Corrected]

2. On page 49875, column 1, the next printed line immediately following the conclusion of § 1.861–8T(e)(6)(iii) should read "* * * * *".

Dale D. Goode,

Chief, Regulations Unit, Assistant Chief Counsel (Corporate).

[FR Doc. 89–2067 Filed 1–27–89; 8:45 am]

BILLING CODE 4830–01–M

DEPARTMENT OF THE INTERIOR

Office of Surface Mining Reclamation and Enforcement

30 CFR Part 931

New Mexico Permanent Regulatory Program

AGENCY: Office of Surface Mining Reclamation and Enforcement (OSMRE), Interior.

ACTION: Final rule.

SUMMARY: OSMRE is announcing approval of an amendment to the New Mexico permanent regulatory program (hereinafter referred to as the New Mexico program) under the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The amendment pertains to cultural and historic resources. The amendment revises the State program to be consistent with the corresponding Federal regulations.

EFFECTIVE DATE: January 30, 1989.

FOR FURTHER INFORMATION CONTACT: Robert H. Hagen, Director, Albuquerque Field Office, Office of Surface Mining Reclamation and Enforcement, 625 Silver Avenue, SW., Suite 310, Albuquerque, NM 87102; Telephone (505) 766–1486.

SUPPLEMENTARY INFORMATION:

I. Background

On December 31, 1980, The Secretary of the Interior conditionally approved the New Mexico program. Information regarding the general background for the New Mexico program, including the Secretary's findings, the disposition of comments, and detailed explanation of the conditions of approval of the New Mexico program can be found in the December 31, 1980 Federal Register (45 FR 86459). Actions taken subsequent to the approval of the New Mexico program are found in 30 CFR 931.12, 931.13, 931.15, and 931.16.

II. Discussion of the Amendment

In accordance with the provisions of 30 CFR 732.17(f), the Director of OSMRE on June 9, 1987, notified New Mexico of certain changes necessary to ensure that the approved regulatory program remained no less stringent than SMCRA and no less effective than the revised Federal regulations concerning the protection of cultural and historic resources.

In response to one of the requirements of OSMRE's June 9, 1987, letter, New Mexico on September 1, 1988, submitted to OSMRE a proposed amendment to Coal Surface Mining Commission (CSMC) Rule 80–1 (Administrative Record No. NM–441). The proposed amendment concerns written permit findings for cultural and historic resources.

OSMRE announced receipt of the proposed amendment in the November 2, 1988, Federal Register (53 FR 44202) and, in the same notice, opened the public comment period and provided an opportunity for a public hearing on the substantive adequacy of the proposed amendment. The public comment period closed on December 2, 1988. The public hearing, scheduled for November 28, 1988, was not held because no one requested an opportunity to testify.

III. Director's Findings

The Director finds, in accordance with SMCRA and 30 CFR 732.15 and 732.17, that the amendment submitted by New Mexico on September 1, 1988, meets the requirements of SMCRA and 30 CFR Chapter VII as discussed below. The Director is approving the rule with the provision that it be fully promulgated in a form identical to that submitted to and reviewed by OSMRE and the public. New Mexico proposes to revise CSMC Rule 80–1, Section 11–19, to add a new subsection (p). This new subsection would require the Director of the New Mexico Mining and Minerals Division (MMD) to make a written permit finding showing that he has taken into account the effect of the proposed permitting action on properties listed on and eligible for listing on the National Register of Historic Places. This finding would be supported by inclusion of appropriate permit conditions or changes in the operation plan protecting historic resources, or documentation that no additional protective measures were necessary.

Except for the inclusion of State-specific references, SCMC Rule 80–1–11–19(p) is identical to the corresponding Federal rule at 30 CFR 773.15(c)(11). Therefore, the Director finds that it is no less effective than the Federal rule.

IV. Summary and Disposition of Comments

OSMRE did not receive any public comments in response to its November 2, 1988, Federal Register notice, and it did not hold a public hearing because no one requested an opportunity to provide testimony.

Pursuant to section 503(b) of SMCRA and the implementing regulations at 30 CFR 732.17(h)(11), OSMRE solicited comments from various Federal agencies with an actual or potential interest in the New Mexico program. In response, the Bureau of Land Management (BLM) requested that the

word "and" be replaced by the word "or" in the phase "properties listed on and eligible for listing on the National Register of Historic Places." OSMRE did not pursue this comment with New Mexico because New Mexico's proposed rule is identical to the Federal counterpart which will be interpreted in the manner desired by the BLM.

Pursuant to 30 CFR 732.17(h)(4), OSMRE solicited comments from the State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation. The SHPO for New Mexico recommended that CSMC Rule 80–1–11–19 reference the consultation conducted between the New Mexico SHPO and the MMD under their existing Memorandum of Understanding (MOU). OSMRE did not require that MMD revise its proposed rule because the Federal counterpart regulation contains no such requirement to reference SHPO/regulatory authority MOU's. The fact that the proposed rule does not reference the MOU has no impact on the existing MOU nor should it affect the continued coordination and consultation by the SHPO and MMD on permitting matters concerning historical properties. Consultation with the SHPO is required by CSMC Rule 80–1–2–12(e).

V. Director's Decision

Based on the above finding, the Director is approving the proposed amendment submitted by New Mexico on September 1, 1988. The Federal regulations at 30 CFR Part 931 that codify decisions concerning the New Mexico program are being amended to implement this decision. This final rule is being made effective immediately to expedite the State program amendment process and to encourage States to bring their programs into conformity with the Federal standards without undue delay. Consistency of State and Federal standards is required by SMCRA.

VI. Procedural Determinations

National Environmental Policy Act. The Secretary has determined that, pursuant to section 702(d) of SMCRA, 30 U.S.C. 1292(d), no environmental impact statement need be prepared on this rulemaking.

Executive Order No. 12291 and the Regulatory Flexibility Act. On July 12, 1984, the Office of Management and Budget (OMB) granted OSMRE an exemption from sections 3, 4, 7, and 8 of Executive Order 12291 for action directly related to approval or conditional approval of State regulatory programs. Therefore, for this action, OSMRE is exempt from the requirement to prepare a regulatory impact analysis, and this action does not require regulatory review by OMB.

The Department of the Interior has determined that this rule will not have a significant economic effect on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*).

This rule will not impose any new requirements; rather, it will ensure that existing requirements established by SMCRA and the Federal rules would be met by the State.

Paperwork Reduction Act. This rule does not contain information collection requirements which require approval by the OMB, 44 U.S.C. 3507.

List of Subjects in 30 CFR Part 931

Coal mining, Intergovernmental relations, Surface mining, Underground mining.

Date: January 23, 1989.

Robert E. Boldt,

Deputy Director, Office of Surface Mining Reclamation and Enforcement.

For the reasons set out in the preamble, Title 30, Chapter VII, Subchapter T of the Code of Federal Regulations is amended as set forth below.

PART 931—NEW MEXICO

1. The authority citation for Part 931 is revised to read as follows:

Authority: 30 U.S.C. 1201 *et seq.*

2. The authority citations for §§ 931.10, 931.11, 931.12, and 931.15 are removed.

3. Section 931.15 is amended by adding a new paragraph (g) to read as follows:

§ 931.15 Approval of amendments to State regulatory program.

* * * * *

(g) The following amendment submitted on September 1, 1988 is approved effective January 30, 1989 provided New Mexico adopts the regulation in a form identical to that submitted to OSMRE: Addition of New Mexico Coal Surface Mining (CSMC) Rule 80–2–22–29(p), to require a finding for permit approval regarding historic and cultural resources.

[FR Doc. 89–1908 Filed 1–27–89; 8:45 am]

BILLING CODE 4310–05–M

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30 CFR Part 935

Ohio Regulatory Program

AGENCY: Office of Surface Mining Reclamation and Enforcement (OSMRE), Interior.

ACTION: Final rule.

SUMMARY: OSMRE is announcing the approval of Program Amendment Number 33 to the Ohio regulatory program (hereinafter referred to as the Ohio program) approved under the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The amendment revises the State regulations concerning coal exploration to improve their clarity and add specificity to the State's operational procedures.

EFFECTIVE DATE: January 30, 1989.

FOR FURTHER INFORMATION CONTACT: Ms. Nina Rose Hatfield, Director, Columbus Field Office, Office of Surface Mining Reclamation and Enforcement, Room 202, 2242 South Hamilton Road, Columbus, Ohio 43232; Telephone: (614) 866–0578.

SUPPLEMENTARY INFORMATION:

I. Background on the Ohio Program

On August 16, 1982, the Secretary of the Interior conditionally approved the Ohio program. Information on the general background of the Ohio program submission, including the Secretary's findings, the disposition of comments, and a detailed explanation of the conditions of approval of the Ohio program, can be found in the August 10, 1982, **Federal Register** (47 FR 34688). Subsequent actions concerning the conditions of approval and program amendments are identified at 30 CFR 935.11, 935.12, 935.15, and 935.16.

II. Submission of Amendments

By letter dated March 8, 1988 (Administrative Record No. OH–1019), the Ohio Department of Natural Resources, Division of Reclamation (Ohio) submitted Program Amendment Number 33, which revises Rule 1501:13–4–02 of the Ohio Administrative Code (OAC). On July 1, 1988 (Administrative Record No. OH–1066), Ohio submitted further revisions to OAC 1501:13–4–02(B)(1)(b) and (B)(1)(c).

OSMRE announced receipt of the March 8, 1988, proposed amendment in the **Federal Register** on April 11, 1988 (53 FR 11887) and, in the same notice, opened the public comment period and provided opportunity for a public hearing on its adequacy. Following receipt of the July 1, 1988, revisions, OSMRE reopened the public comment period for an additional 15 days on August 8, 1988 (53 FR 29746). A summary of the comments received and their disposition appears in the section of this notice entitled "Summary and Disposition of Comments."

III. Director's Findings

Set forth below, pursuant to SMCRA and the Federal regulations at 30 CFR 732.15 and 732.17, are the Director's findings concerning Program Amendment No. 33.

1. OAC 1501:13–4–02(B)(1)(b)

The proposed revision would require that each exploration notice include the name, address, and telephone number of the individual who will be present or *or* (rather than "and" as in the previous language of this provision) responsible for exploration activities.

The corresponding Federal regulation at 30 CFR 772.11(b)(2) contains language identical to that of the previous State rule. However, the preamble to this rule, originally promulgated as 30 CFR 776.11(b), indicates that its intent was to require information identifying the specific individual, e.g., foreman, corporate agent, or other representative of the applicant, whom the inspector or other representative of the regulatory authority could contact directly for inspection, enforcement and other purposes. (See 44 FR 15018, March 13, 1979.)

By letter dated June 28, 1988 (Administrative Record No. OH–1066), Ohio explains that this responsible individual is often not the same person (usually the driller) who is actually present at the exploration site on a continuous basis. There is nothing in the preamble to the Federal rule to indicate that OSMRE intended to require that the designated contact person (responsible individual) actually be present on-site at all times. In fact, given the limited nature of much exploration activity, good management practices would often dictate otherwise. Furthermore, like 30 CFR 772.11(b)(1), OAC 1501:13–4–02 (B)(1)(a) requires the same identifying information of the applicant, who is ultimately responsible for the exploration operation.

Therefore, the Director finds that, provided the designated responsible individual is readily accessible and can be easily contacted by the person who is actually present onsite, the proposed change is no less effective than the Federal rule.

2. OAC 1501:13–4–02(B)(1)(c)

To improve consistency in terminology, Ohio is replacing "area" with "site" when referencing the location of exploration activities. Since this is a nonsubstantive wording change, the Director finds that it will not render the rule less effective than its Federal counterpart at 30 CFR 772.11.

3. OAC 1501:13–4–02(C)(1)

As revised, this rule would require that the person conducting the exploration operation give telephone notice on the date of commencement of any exploration activities to the Ohio Division of Reclamation district office having jurisdiction over the exploration area.

The Federal counterpart at 30 CFR 772.11 does not require such notice. However, under 30 CFR 730.5 and 730.11(b), States are not necessarily limited to the procedures and requirements contained in the Federal rules. Therefore, since the change does not conflict with any Federal requirement, the Director finds that the revised rule is no less effective than its Federal counterpart.

4. OAC 1501:13–4–02(C)(1)(a)

As revised, this rule would allow the Chief to exempt exploratory operations involving only drilling activities from being considered a substantial disturbance of the land surface unless those activities would affect lands designated as unsuitable for coal mining operations.

The corresponding Federal rules in 30 CFR Part 772 contain no such exemption. However, as discussed below, it does allow drilling to be considered a nonsubstantial disturbance under certain circumstances. The preamble to the Federal definition of "substantially disturb" in 30 CFR 701.5 specifies that the determination of whether drilling activities would result in substantial disturbance must be made either on a case-by-case basis, using the definition of "substantially disturb" as guidance, or through guidelines supplementing the State program. (See 48 FR 40624, September 8, 1983.) All guidelines must be consistent with the definition of "substantially disturb" to be no less effective than the Federal rules.

In the June 28, 1988, administrative record accompanying this amendment, Ohio establishes guidelines for use in determining whether a disturbance would be substantial. These guidelines are vague and lacking in definitive criteria, but, properly interpreted, they are not inconsistent with the Federal or State definitions. However, Ohio further states in this document that it intends to consider the construction of roads to facilitate drilling to be a nonsubstantial disturbance since such roads would only be used for a short duration.

The Director finds this statement to be inconsistent with the definition of "substantially disturb." As discussed at length in the preamble to this definition (48 FR 40624, September 8, 1983), the revised Federal rule did not intend to categorically exclude drilling operations. Indeed, the preamble clearly states that "usually such a substantial disturbance would occur when drilling is combined with other activities (e.g., * * * construction of roads to a drilling site or the removal of vegetation and topsoil for the drill pad, in addition to the drilling itself)." Depending on site-specific environmental conditions, these activities may not always result in substantial disturbance; however, the categorical exclusion intended by Ohio is clearly inconsistent with the Federal rule. Any exclusion of roads constructed for drilling operations must be based on their environmental impact, not the extent to which they are used. Negative environmental impacts of roads are usually related more to their construction and maintenance than to their degree of use.

The Director agrees with Ohio that drilling is usually the least environmentally disruptive form of exploration; however, it does not follow, as Ohio implies, that drilling is therefore a nonsubstantial disturbance. Minimization of environmental impacts is desirable and a purpose of SMCRA, but minimization alone does not justify a determination of no substantial disturbance. The decision as to whether a particular activity would create a substantial disturbance must be based on the absolute impacts which would result from that disturbance, not on how those impacts compare with the impacts which would be caused if differing methodology were used.

Therefore, the Director finds that the rule change itself, which allows, but does not require, Ohio to consider drilling to be a nonsubstantial disturbance, is no less effective than the Federal rule, provided Ohio interprets this rule in a manner consistent with this finding.

5. OAC 1501:13–4–02(E)(2)

This proposed revision provides that notices of intent to explore shall expire on the first anniversary of the date of issuance unless a request for renewal is filed with the Ohio Division of Reclamation at least 60 days prior to the expiration date. Although the corresponding Federal rule at 30 CFR 772.11 does not specify when a notice of intent to explore expires, under 30 CFR 730.5 and 730.11 States may adopt procedures and requirements in addition to those contained in SMCRA and the Federal rule. Therefore, since the Ohio provision does not conflict with any Federal requirement, the Director finds

that the revision is not inconsistent with section 512 of SMCRA and will not render the State rule less effective than 30 CFR 772.11.

IV. Summary and Disposition of Comments

Public Comments

The comment period and opportunity to request a hearing announced in the April 11, 1988, **Federal Register** ended on May 11, 1988. The public comment period was reopened in the August 8, 1988, **Federal Register** and ended on August 23, 1988. No public comments were received and the scheduled public hearing was not held as no one requested an opportunity to provide testimony.

Agency Comments

Pursuant to section 503(b) of SMCRA and the implementing regulations at 30 CFR 732.17(h)(11)(i), comments were solicited from various Federal agencies with an actual or potential interest in the Ohio program. Only the Soil Conservation Service of the U.S. Department of Agriculture provided comments, the disposition of which is summarized below:

1. *Comment:* The guidelines criterion concerning barren areas, which states that the creation of such areas will be minimized, should be revised to require that areas with slopes greater than two percent be regraded to the original contour and reseeded with a permanent pasture mixture.

Response: This comment has not been adopted since it would be a performance standard, not a criterion for determining whether a proposed activity would constitute a substantial disturbance, which is the purpose of the guidelines.

2. *Comment:* Erosion during and after construction of roads for access by drilling equipment may be a major disturbance.

Response: The Director agrees. As discussed in Finding 4, he is requiring the State to determine whether road construction would constitute a substantial disturbance on the basis of actual and potential environmental impact, rather than the extent to which the road would be used, as originally proposed.

3. *Comment:* OAC 1501: 13–4–02(B)(1)(h) should be revised to allow the notice of intent to explore to include either a statement that the exploration operations will not substantially disturb the ground surface or a plan to reclaim significant disturbances, rather than just the former as is currently required.

Response: The commenter's suggestion would impermissably weaken this rule by allowing persons to substantially disturb the land's surface without first obtaining an exploration permit. Therefore, it has not been adopted.

4. *Comment:* Drill holes created by coal exploration should be sealed after drilling so as to protect aquifers and prevent future dumping of waste materials.

Response: The Ohio program already contains this provision. OAC 1501: 13–4–02(E)(2) and 13–8–01(G) require that all coal exploration operations comply with the requirements of OAC 1501: 13–9–02, which requires that each hole drilled be cased, sealed, or otherwise managed as approved by the Chief to prevent acid or other toxic drainage from entering ground or surface waters.

5. *Comment:* Any slurry or brine created from exploration drilling should be contained in the immediate area and/or removed from the site and disposed of in an approved manner.

Response: Neither the State nor the Federal rules include this standard. However, both do require compliance with all State and Federal requirements concerning water quality, which should achieve the result desired by the commenter. Also, OAC 1501: 13–4–02(B)(1)(g) requires that notices of intent include a description of the practices to be followed to reclaim the area and to prevent adverse environmental impacts, and OAC 1501: 13–8–01(I) requires that coal exploration operations be conducted in a manner which minimizes disturbance of the prevailing hydrologic balance in accordance with OAC 1501: 13–9–04.

6. *Comment:* Where a substantial disturbance determination has been made, a plan to control erosion, establish permanent vegetation and preserve water quality should be prepared.

Response: OAC 1501: 13–4–02(B)(2)(a) already contains this requirement.

V. Director's Decision

Based on the findings discussed above, the Director is approving Program Amendment Number 33 as submitted on March 8 and July 1, 1988, with the partial exception of the revision of OAC 1501: 13–4–02(C)(1)(a) as discussed in Finding 4. As provided by 30 CFR 732.17 (a) and (g), any provisions that are not approved by the Director may not be implemented as part of the Ohio program.

This final rule is being made effective immediately to expedite the State program amendment process and to encourage States to conform their programs with the Federal standards without delay. Consistency of State and Federal standards is required by SMCRA.

VI. Procedural Determinations

National Environmental Policy Act

The Secretary has determined that, pursuant to section 702(d) of SMCRA, 30 U.S.C. 1292(d), no environmental impact statement need to be prepared on this rulemaking.

Executive Order 12291 and the Regulatory Flexibility Act

On July 12, 1984, the Office of Management and Budget (OMB) granted OSMRE an exemption from Sections 3, 4, and 7, and 8 of Executive Order 12291 for actions directly related to approval or conditional approval of State regulatory programs. Therefore, this action is exempt from preparation of a regulatory impact analysis and regulatory review by OMB.

The Department of the Interior has determined that this rule will not have a significant effect on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*). This rule will not impose any new requirements; rather, it will ensure that existing requirements established by SMCRA and the Federal rules will be met by the State.

Paperwork Reduction Act

This rule does not contain information collection requirements which require approval by the Office of Management and Budget under 44 U.S.C. 3507.

List of Subject in 30 CFR Part 935

Coal mining, Intergovernmental relations, Surface mining, Underground mining.

Date: January 23, 1989.

Robert E. Boldt,

Deputy Director, Office of Surface Mining Reclamation and Enforcement.

For the reasons set out in the preamble, Title 30, Chapter VII, Subchapter T of the Code of Federal Regulations is amended as set forth below:

PART 935—OHIO

1. The authority citation for Part 935 continues to read as follows:

Authority: 30 U.S.C. 1201 *et seq.*

2. In § 935.15, a new paragraph (ii) is added to read as follows:

§ 935.15 Approval of regulatory program amendments.

* * * * *

(ii) Except as noted herein, the following amendment concerning coal exploration activities, as submitted to OSMRE on March 8 and July 1, 1988, is approved effective January 30, 1989. Program Amendment Number 33, which consists of revisions of the following paragraphs of Rule 13–4–02 of Chapter 1501 of the Ohio Administrative Code: (B)(1)(b), (B)(1)(c), (C)(1), (C)(1)(a) (except to the extent that Ohio has indicated it intends to interpret this paragraph as authorizing the regulatory authority to determine whether road construction constitutes a substantial disturbance on the basis of the degree to which the road would be used rather than the potential environmental impact of the actual construction and its aftermath, and (E)(2).

[FR Doc. 89–1907 Filed 1–27–89; 8:45 am]
BILLING CODE 4310–05–M

DEPARTMENT OF TRANSPORTATION

Coast Guard

33 CFR Part 117

[CGD5–88–025]

Drawbridge Operation Regulations; Roanoke Sound, NC

AGENCY: Coast Guard, DOT.

ACTION: Final rule.

SUMMARY: At the request of the North Carolina Department of Transportation, the Coast Guard is changing the regulations governing the operation of the U.S. 64/264 drawbridge across the Roanoke Sound at mile 2.8, in Manteo, North Carolina, by restricting the number of bridge openings during boating season. The bridge currently is required to open on signal. The changes to this regulation are, to the extent practical and feasible, intended to provide for regularly scheduled drawbridge openings to help reduce motor vehicle traffic delays and congestion on the roads and highways linked by this drawbridge.

EFFECTIVE DATE: These regulations become effective on March 1, 1989.

FOR FURTHER INFORMATION CONTACT: Ann B. Deaton, Bridge Administrator, Fifth Coast Guard District, 431 Crawford Street, Portsmouth, VA 23704–5004, (804) 398–6222.

SUPPLEMENTARY INFORMATION: On June 28, 1988, the Coast Guard published a notice of proposed rulemaking in the **Federal Register** (53 FR 24323) concerning the U.S. 64/264 bridge across the Roanoke Sound at Manteo, North Carolina. Interested persons were given until August 12, 1988, to submit comments on the proposed rule. The Commander, Fifth Coast Guard District, also published the proposal as a Public Notice on July 11, 1988, which gave interested persons until August 5, 1988, to submit comments. Four comments were received.

Drafting Information

The drafters of these regulations are Linda L. Gilliam, Project Officer, and LCDR Robin K. Kutz, Project Attorney.

Discussion of Rule and Comments

The North Carolina Department of Transportation has requested that the U.S. 64/264 drawbridge across the Roanoke Sound at mile 2.8, in Manteo, North Carolina, be required to open only on the hour, between 7:00 a.m. and 7:00 p.m., daily, from May 1 to October 31. The current regulations require the draw to open on signal for the passage of vessels. This request was made to alleviate highway congestion caused by excessive bridge openings. A proposed rule restricting drawbridge openings during the requested time frame was published in the **Federal Register** (53 FR 24323) on June 28, 1988, and the proposal was announced in a Public Notice dated July 11, 1988.

Four comments were received. Three responses were from private citizens offering no objection to the proposed rule, and the fourth response was from S.C. Loveland Co., Inc., a commercial waterway user of the Roanoke Sound. S.C., Loveland Co., Inc., of Philadelphia, PA, in a letter dated July 27, 1988, expressed their opinion that tug and barge operators should not be restricted and should be allowed on demand passage through the bridge. This regulation omits on demand passage for commercial vessels because they cause a significant number of bridge openings at the Roanoke Sound Bridge. A review of the drawlogs revealed that from May 1, 1988, through October 31, 1988, from 7:00 a.m. to 7:00 p.m., the drawbridge opened 495 times for the passage of commercial vessels and 2,015 times for the passage of pleasure vessels. Even though the number of drawbridge openings for commercial vessels was lower than that for pleasure vessels, restricting commercial vessels is warranted since the 495 random openings were significant enough to cause highway traffic congestion across the drawbridge. Further, the North Carolina Department of Transportation held a public meeting with the Town of Manteo and was informed by local spokesmen and council members that if commercial vessel traffic was not restricted, highway traffic congestion would continue.

S.C. Loveland's comment to the rule has been considered, and it is felt that restricting on demand openings for commercial vessels from May 1 to October 31 will not overly burden commercial vessel operators. This conclusion is based on the fact that this regulation will only remain in effect until the completion of the fixed highway bridge now being constructed adjacent to the existing drawbridge across the Roanoke Sound. The new bridge is scheduled for completion in about 1½ years, at which time the drawbridge will be removed. Also, the regulations are only in effect for six months out of the year, and do provide hourly openings during daylight hours. The regulations are adopted as proposed, subject only to minor editorial changes to improve readability.

Federalism Assessment

This action has been analyzed in accordance with the principles and criteria contained in Executive Order 12612, and it has been determined that the final rule does not raise sufficient federalism implications to warrant the preparation of a Federalism Assessment. Although the rule does impact the North Carolina Department of Transportation, which operates the bridge, the effect is entirely positive. In fact, these regulations were requested by the Department.

Economic Assessment

These regulations are considered to be non-major under Executive Order 12291 on Federal Regulation and nonsignificant under Department of Transportation regulatory policies and procedures (44 FR 11034; February 26, 1979). While the final rule may have some economic impact on commercial navigation, the impact is expected to be minimal. Therefore, a full regulatory evaluation is considered unnecessary. This conclusion is based on the fact that the regulation will only be in effect until completion of the fixed highway bridge now being constructed across the Roanoke Sound adjacent to the existing bridge. This regulation will be removed once the new bridge is opened to highway traffic. Since the economic impact of these regulations is expected to be minimal, the Coast Guard certifies that they will not have a significant impact on a substantial number of small entities.

List of Subjects in 33 CFR Part 117

Bridges.

Regulations

In consideration of the foregoing, Part 117 of Title 33, Code of Federal Regulations, is amended as follows:

PART 117—DRAWBRIDGE OPERATION REGULATIONS

1. The authority citation for Part 117 continues to read as follows

Authority: 33 U.S.C. 499; 49 CFR 1.46; 33 CFR 1.05(g).

2. Section 117.838 is revised to read as follows:

§ 117.838 Roanoke Sound.

(a) The draw of the U.S. 64/264 bridge, mile 2.8, at Manteo, NC, shall open on signal, except that between May 1 through October 31, from 7:00 a.m. to 7:00 p.m., the draw must open only on the hour for the passage of vessels.

(b) To accommodate approaching vessels, the hourly opening may be delayed up to 10 minutes past the hour.

(c) Public vessels of the United States and any vessel in an emergency involving danger to life or property shall be passed at any time.

Dated: January 12, 1989.

A.D. Breed,

Rear Admiral, U.S. Coast Guard, Commander, Fifth Coast Guard District.

[FR Doc. 89-2084 Filed 1-27-89; 8:45 am]

BILLING CODE 4910-14-M

VETERANS ADMINISTRATION

38 CFR Part 4

Systemic Diseases, Temporary Total Evaluations Based on Periods of Hospitalization or Surgery, Regular Schedular Assignment of a Total Evaluation Based on Total Industrial Impairment

AGENCY: Veterans Administration.

ACTION: Final rule.

SUMMARY: The Veterans Administration (VA) has amended the Schedule for Rating Disabilities by adding Melioidosis, acquired immunodeficiency syndrome (AIDS), AIDS Related Complex (ARC), and human immunodeficiency virus (HIV) Antibody Positive; by amending the rating criteria for evaluation of other systemic diseases; by broadening the definition of surgery for assignment of a temporary total evaluation under § 4.30; by clarifying what constitutes 21 days of hospitalization under § 4.29; by providing that when the main criterion for assignment of a total evaluation is total industrial impairment (in mental disorders), such total evaluation will be assigned without resort to the individual unemployability provisions of § 4.16; and by inserting revised psychiatric nomenclature in § 4.124a to conform with a recent revision to § 4.132. These changes are necessary to clarify certain eligibility criteria and are intended as a periodic update of the schedule for rating disabilities required by law.

EFFECTIVE DATE: These regulations are effective March 1, 1989.

FOR FURTHER INFORMATION CONTACT: Robert M. White, Chief, Regulations Staff, Compensation and Pension Service, Department of Veterans Benefits, Veterans Administration, 810 Vermont Avenue NW., Washington, DC, 20420 (202) 233-3005.

SUPPLEMENTARY INFORMATION: On pages 18099-18101 of the **Federal Register** of May 20, 1988, the VA published proposed rules to amend the Schedule for Rating Disabilities. A correction was published on page 19856 of the **Federal Register** of May 31, 1988. Interested persons were invited to submit comments, suggestions, or objections regarding the proposed rules by June 20, 1988. Two service organizations and one individual submitted comments.

One commenter expressed concern with proposed Diagnostic Code 6353, HIV Antibody Positive (no underlying disease). It was suggested that it be amended to read, "HIV Antibody Positive or other clinical evidence of its presence," as several reports suggest "Antibody Positive" may not always be detectable by current clinical procedures, but is present nevertheless. We do not concur. The proposed rule reflects both the currently available technology and the current understanding of the disease process. While it is true that there are individuals with false negative tests, there are no clinical findings which would differentiate such an individual from one with a true negative test.

That commenter also objected to the proposed change to DC 6305, Filariasis, providing for a 10% evaluation as the requirements conflict with those currently in effect for a 30% evaluation. We concur. The requirements for a 10% evaluation have been deleted from the final rule; however, we reserve the right to propose this matter again at a future date. The proposed changes in terminology are retained.

The same commenter also had no objection to the authorized absence periods cited in § 4.29, but felt they conflicted with the sentence in the preamble which stated that a temporary release approved by an attending physician as part of the treatment plan will not be considered an absence. It was requested that we insert that sentence in the rule. While we concur with the request to insert the sentence in the rule, we do not concur that there is a conflict between the authorized absence periods and the sentence as not all temporary releases are approved as part of a veteran's treatment. Those that are so approved must be certified to that effect. We are amending § 4.29(a) to include the sentence from the preamble of the proposal.

Another commenter felt the premise set forth for the change to § 4.29 was excellent, but that the proposed changes were deficient in that they did not encompass authorized absences of less than 4 days or more than 14 days. We concur and are amending § 4.29(a) (1) and (2) accordingly.

We are restoring the words "Veterans Administration" before the word "expense" in the introductory paragraph of § 4.29 as they were inadvertently dropped in the proposed rule.

A third commenter objected to the proposed change to § 4.30 requiring one month of convalescence for a temporary total evaluation suggesting it is in conflict with 38 U.S.C. 3011(c)(2). We do not concur as the cited law refers to the commencement of payment pursuant to § 4.29 when hospitalization begins and ends within the same calendar month.

That commenter also suggested that a note be inserted following the rating criteria for brucellosis to provide that residuals involving the joints, heart and other body organs and systems be rated separately or in accordance with the current 50 percent and lesser evaluations, whichever would provide the greater evaluation. We do not concur as the current rule provides that complications such as arthritis, endocarditis, uveitits, etc., may be rated separately from and in addition to the evaluations for the residuals of the disease itself.

The same commenter suggested that consideration be given to placing histoplasmosis in the rating schedule. As our proposed rules did not involve histoplasmosis, consideration is not in order at this time; however, we will consider the matter in the future.

It was additionally pointed out that the proposed rules did not include amendments to Appendices A, B, and C of 38 CFR Part 4. Because the appendices were not amended to conform with some previous rule changes, we are planning to do a separate, complete updating of the appendices in the near future.

We appreciate the comments and suggestions of those who responded to

publication of the proposed rules. The proposed rules are adopted with the amendments noted above. The final rules are set forth below.

The Administrator hereby certifies that these final regulations will not have a significant impact on a substantial number of small entities as they are defined in the Regulatory Flexibility Act, 5 U.S.C. 601–612. The reason for this certification is that these regulations would not directly affect any small entities. Only VA beneficiaries could be directly affected. Therefore, pursuant to 5 U.S.C. 605(b), these regulations are exempt from the initial and final regulatory flexibility analyses requirements of sections 603 and 604.

In accordance with Executive Order 12291, Federal Regulation, the VA has determined that these final regulations are non-major for the following reasons:

(1) They will not have an annual effect on the economy of $100 million or more.

(2) They will not cause a major increase in costs or prices.

(3) They will not have significant adverse effects on competition, employment, investment, productivity, innovation, or on the ability of United States-based enterprises to compete with foreign-based enterprises in domestic or export markets.

Catalog of Federal Domestic Assistance Program numbers are 64.104 and 64.109.

List of Subjects in 38 CFR Part 4

Handicapped, Pensions, Veterans.

Approved: December 21, 1988.

Thomas K. Turnage,

Administrator.

38 CFR Part 4, Schedule for Rating Disabilities, is amended as follows:

PART 4—[AMENDED]

1. The authority citation for Part 4 continues to read as follows:

Authority: 72 Stat. 1125; 38 U.S.C. 355.

2. In § 4.16, paragraph (c) is added to read as follows:

§ 4.16 Total disability ratings for compensation based on unemployability of the individual.

* * * * *

(c) The provisions of paragraph (a) of this section are not for application in cases in which the only compensable service-connected disability is a mental disorder assigned a 70 percent evaluation, and such mental disorder precludes a veteran from securing or following a substantially gainful occupation. In such cases, the mental disorder shall be assigned a 100 percent schedular evaluation under the appropriate diagnostic code.

§ 4.29 [Amended]

3. In § 4.29(g), remove the words "§ 3.321(b)" where they appear and add, in their place, the words "§ 3.321(b)(1)".

4. In § 4.29, the introductory text, paragraph (a) and the first sentence of paragraph (c) are revised to read as follows:

§ 4.29 Ratings for service-connected disabilities requiring hospital treatment or observation.

A total disability rating (100 percent) will be assigned without regard to other provisions of the rating schedule when it is established that a service-connected disability has required hospital treatment in a Veterans Administration or an approved hospital for a period in excess of 21 days or *hospital observation at Veterans Administration expense* for a service-connected disability for a period in excess of 21 days.

(a) Subject to the provisions of paragraphs (d), (e), and (f) of this section this increased rating will be effective the first day of continuous hospitalization and will be terminated effective the last day of the month of hospital discharge (regular discharge or release to non-bed care) or effective the last day of the month of termination of treatment or observation for the service-connected disability. A temporary release which is approved by an attending Veterans Administration physician as part of the treatment plan will not be considered an absence.

(1) An authorized absence in excess of 4 days which begins during the first 21 days of hospitalization will be regarded as the equivalent of hospital discharge effective the first day of such authorized absence. An authorized absence of 4 days or less which results in a total of more than 8 days of authorized absence during the first 21 days of hospitalization will be regarded as the equivalent of hospital discharge effective the ninth day of authorized absence.

(2) Following a period of hospitalization in excess of 21 days, an authorized absence in excess of 14 days or a third consecutive authorized absence of 14 days will be regarded as the equivalent of hospital discharge and will interrupt hospitalization effective on the last day of the month in which either the authorized absence in excess of 14 days or the third 14 day period begins, except where there is a finding that convalescence is required as provided by paragraph (e) or (f) of this section. The termination of these total ratings will not be subject to § 3.105(e) of this chapter.

* * * * *

(c) The assignment of a total disability rating on the basis of hospital treatment or observation will not preclude the assignment of a total disability rating otherwise in order under other provisions of the rating schedule, and consideration will be given to the propriety of such a rating in all instances and to the propriety of its continuance after discharge. * * *

* * * * *

5. In § 4.30, introductory text is added and paragraphs (a), (a)(1), (a)(2) and (a)(3) are revised to read as follows:

§ 4.30 Convalescent ratings.

A total disability rating (100 percent) will be assigned without regard to other provisions of the rating schedule when it is established by report at hospital discharge (regular discharge or release to non-bed care) or outpatient release that entitlement is warranted under paragraph (a) (1), (2) or (3) of this section effective the date of hospital admission or outpatient treatment and continuing for a period of 1, 2, or 3 months from the first day of the month following such hospital discharge or outpatient release. The termination of these total ratings will not be subject to § 3.105(e) of this chapter. Such total rating will be followed by appropriate schedular evaluations. When the evidence is inadequate to assign a schedular evaluation, a physical examination will be scheduled and considered prior to the termination of a total rating under this section.

(a) Total ratings will be assigned under this section if treatment of a service-connected disability resulted in:

(1) Surgery necessitating at least one month of convalescence (Effective as to outpatient surgery March 1, 1989.)

(2) Surgery with severe postoperative residuals such as incompletely healed surgical wounds, stumps of recent amputations, therapeutic immobilization of one major joint or more, application of a body cast, or the necessity for house confinement, or the necessity for continued use of a wheelchair or crutches (regular weight-bearing prohibited). (Effective as to outpatient surgery March 1, 1989.)

(3) Immobilization by cast, without surgery, of one major joint or more. (Effective as to outpatient treatment March 10, 1976.)

* * * * *

6. In § 4.88a, diagnostic codes 6305, 6309, 6314, 6316 are revised and diagnostic codes 6318, 6351, 6352, and

6353 are added so that the revised and added material reads as follows:

§ 4.88a Schedule of ratings-systemic diseases.

* * * * *

6305 Filariasis:
Initial infection with severe lymphangitis or lymphadenitis 100
Chronic, with repeated recurrences and tendency to severe multiple involvement of extremities and genitalia or severe lymphadenitis .. 100
Chronic, with repeated recurrences and beginning permanent deformity of one or more extremities or genitalia or moderate lymphadenitis 60
Chronic, following any recurrence, symptomatic 30
With subsidence of symptoms following only one attack 0
Note.—The following ratings of this code may be combined among themselves to cover multiple involvements but are not to be combined with the preceding ratings of this code.
Permanent deformity of an extremity or of the genitalia:
Severe 60
Moderate 30
Mild 10

* * * * *

6309 Rheumatic fever:
As established active generalized disease with constitutional symptoms 100
Note.—Rate residuals under the appropriate cardiac, musculoskeletal, neurological or other diagnostic code, e.g., 7000, 5002 or 8105.

* * * * *

6314 Beriberi:
Pronounced, with long history of limited nourishment, edema, weakness, cardiac enlargement or murmurs, peripheral neuropathy or other manifestations not responding to therapy 100
Severe form, with some of the above precluding more than strictly sedentary activity 60
Moderately severe form, with some of the above precluding more than ordinary activity 30
Moderate residuals 10

* * * * *

6316 Brucellosis (Malta or undulant fever):
As active incapacitating febrile disease (initial or recurrent episode) with arthritis, endocarditis, uveitis or other complications 100
Chronic forms:
Severe, with frequent febrile episodes 50
Moderately severe, with febrile episodes not more frequently than once in 3 months 30
Moderate, with infrequent febrile episodes, but with fatigability, moderate depression, etc 10
Rate complications, as arthritis, endocarditis, uveitis, etc., separately.

* * * * *

6318 Melioidosis:
Pronounced, with persistent cough, weakness, emaciation, central nervous system involvement or other residuals of military dissemination 100
For less severe residuals rate under appropriate system.

* * * * *

6351 Acquired immunodeficiency syndrome (AIDS):
6352 AIDS Related Complex (ARC):
Note.—Rate underlying disease(s) analogous to an appropriate diagnostic code for the affected body system. Evaluations may be assigned from 0 to 100 percent using an evaluation for the analogous diagnostic code selected.
6353 HIV Antibody Positive (no underlying disease) 0

* * * * *

§ 4.124a [Amended]

7. In the first chart, "Organic Diseases of the Central Nervous System," in the second paragraph under diagnostic code 8045, remove the words "non-psychotic organic brain syndrome" where they appear and add, in their place, the words "dementia associated"; in the second paragraph under diagnostic code 8046, remove the words "non-psychotic organic brain syndrome" where they appear and add, in their place, the words "multi-infarct dementia".

8. In "The Epilepsies" under the paragraph titled, "Mental Disorders in Epilepsies:," remove the words "non-psychotic organic brain syndrome" where they appear and add, in their place, the word "dementia".

[FR Doc. 89-2003 Filed 1-27-89; 8:45 am]
BILLING CODE 8320-01-M

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38 CFR Part 21

Use of Educational Assistance Benefits as a Part of a Vocational Rehabilitation Program

AGENCY: Veterans Administration.

ACTION: Final regulatory amendments.

SUMMARY: The Department of Defense Authorization Act, 1985, established an educational assistance program under Chapter 30, Title 38, United States Code. One of the law's provisions allows an otherwise eligible veteran to elect payment at the rates provided under this program for training which the veteran is pursuing as a part of a vocational rehabilitation program. These final regulatory amendments implement this provision of law.

EFFECTIVE DATE: These amendments are effective October 19, 1984, the date upon which the program authorized under Chapter 30, Title 38, United State Code became law.

FOR FURTHER INFORMATION CONTACT: Morris Triestman, Rehabilitation Consultant, Policy and Program Development (226A), Vocational Rehabilitation and Education Service, Department of Veterans Benefits, Veterans Administration, 810 Vermont Avenue NW., Washington, DC 20420 (202) 233-2886.

SUPPLEMENTARY INFORMATION: At pages 30314 through 30317 of the **Federal Register** of August 11, 1988, the Veterans Administration [VA] published proposed regulatory amendments which implement statutory provisions allowing an otherwise eligible veteran to elect payment at the rates provided under Chapter 30 for training which the veteran is pursuing as a part of a vocational rehabilitation program. Interested persons were given 30 days in which to submit their comments, suggestions, or objections to the proposed regulatory amendments. No comments, suggestion, or objections were received. Since no comments, suggestions, or objections were received, these amendments are adopted as final.

These final amendments do not meet the criteria for major rules as contained in Executive Order 12291, Federal Regulation. These amendments will not have a $100 million annual effect on the economy, will not cause a major increase in costs or prices, and will not have any other significant effects on the economy.

The regulations contained herein will better acquaint eligible veterans, vocational training and rehabilitation facilities, and the public at large with the way these provisions will be implemented. Moreover, the VA finds that good cause exists for making these rules, like the sections of law which they implement, retroactive to the date the educational assistance program authorized under Pub. L. 98-525 becomes effective. A delayed effective date would be contrary to statutory design, would complicate implementation of these provisions of law, and might result in denial of a benefit to a veteran who is entitled by law to that benefit.

The Administrator certifies that these final amendments will not have a significant economic impact on a substantial number of small entities as they are defined in the Regulatory Flexibility Act (RFA), 5 U.S.C. 601–612. Pursuant to 5 U.S.C. 605(b), these final amendments are therefore exempt from the initial and final regulatory flexibility analyses requirements of section 603 and 604. The reasons for this certification are that the proposed regulations simply implement and interpret statutory provisions. These changes only concern the eligibility and participation of individual veterans under the vocational rehabilitation program.

(The Catalog of Federal Domestic Assistance Number is 64.116.)

List of subjects in 38 CFR Part 21

Civil rights, Claims, Education, Grant programs, Loan programs, Reporting requirements, Schools, Veterans, Vocational education, Vocational rehabilitation.

Approved: December 15, 1988.

Thomas K. Turnage,

Administrator.

38 CFR Part 21 is amended as set forth below:

PART 21—[AMENDED]

1. Section 21.22 is amended by revising paragraph (a) introductory text and the authority citation following paragraph (a)(2), to read as follows:

§ 21.22 Nonduplication—Federal programs.

(a) *Allowances.* A service-disabled veteran who is eligible for benefits under Chapter 31, may not receive a subsistence allowance or elect payment of an allowance at the educational assistance rate under Chapter 30 or Chapter 34 pursuant to § 21.264 if the veteran:

* * * * *

(Authority: 38 U.S.C. 1781; Pub. L. 98–525)

* * * * *

2. Section 21.78 is amended by revising paragraph (b)(3), (b)(4) introductory text, (b)(4)(ii) and the authority citation, to read as follows:

§ 21.78 Approving more than 48 months of rehabilitation.

* * * * *

(b) * * *

(3) The veteran previously used education benefit entitlement under other programs administered by the VA, and the additional period of assistance to be provided under Chapter 31 which the veteran needs to become employable will result in more than 48 months being used under all VA education programs, under these conditions the number of months necessary to complete the program may be authorized under Chapter 31, provided that the length of the extension will not result in authorization of more than 48 months under Chapter 31 alone.

(Authority: 38 U.S.C. 1795)

(4) A veteran in an approved Chapter 31 program has elected payment of benefits at the Chapter 30 or Chapter 34 educational assistance rate. The 48 month limitation may be exceeded only:

* * * * *

(ii) If the veteran is in a course on a term, quarter, or semester basis which began before the 36 month limitation on Chapter 30 entitlement or 45 month limitation on Chapter 34 entitlement was reached, and completion of the course will be possible by permitting the veteran to complete the training under Chapter 31.

(Authority: 38 U.S.C. 1413, 1795; Pub. L. 98–525)

3. Section 21.148 is amended by revising paragraph (d) to read as follows:

§ 21.148 Tutorial assistance.

* * * * *

(d) *Payment at the Chapter 30 or Chapter 34 rate.* If a veteran has elected payment at the educational assistance rate payable under Chapter 30 or Chapter 34, he or she may not be provided individualized tutorial assistance under provision of Chapter 31. (See § 21.334.)

(Authority: 38 U.S.C. 1508(f); Pub. L. 98–525)

4. Section 21.254 is amended by revising paragraph (b)(1) and the authority citation following paragraph (b)(4), to read as follows:

§ 21.254 Supportive services.

* * * * *

(b) * * *

(1) Subsistence allowance, or payment of an allowance at the educational assistance rate paid under Chapter 30 or Chapter 34 for similar training;

* * * * *

(Authority: 38 U.S.C. 1504(a), 1508(f); Pub. L. 98–525)

* * * * *

5. Section 21.256 is amended by revising paragraph (e)(2) and adding an authority citation, to read as follows:

§ 21.256 Incentives for employers.

* * * * *

(e) * * *

(2) Notwithstanding any other provisions of these regulations, if the program in which the veteran is participating meets the criteria for approval of on-job training under Chapter 30 or Chapter 34, the veteran may be paid educational assistance under Chapter 30 or Chapter 34 to the extent that he or she has remaining eligibility and entitlement under Chapter 30 or Chapter 34. (See § 21.264)

(Authority: 38 U.S.C. 1508(f), 1516(b); Pub. L. 98–525)

* * * * *

6. Section 21.260 is amended by revising paragraph (a) and the authority citation, to read as follows:

§ 21.260 Subsistence allowance.

(a) *General.* A veteran in a rehabilitation program under Chapter 31 will receive a monthly subsistence allowance at the rates specified in paragraph (b) of this section, unless he or she has elected to receive payment at the rate of the monthly educational assistance allowance payable under Chapter 30 or Chapter 34 for similar training. See § 21.164 of this part for election of payment at the Chapter 30 or Chapter 34 rate, § 21.4136 of this part for payment at Chapter 34 rates, and §§ 21.7136, 21.7137, and 21.7138 of this part for payment at Chapter 30 rates.

(Authority: 38 U.S.C. 1508(a), 1508(f); Pub. L. 98–525)

* * * * *

7. Section 21.264 is amended by revising the section heading, paragraph (a) introductory text, (a)(1), (a)(2), the authority citation following paragraph (a)(3), (b)(1) and the authority citation following paragraph (b)(3), (c) introductory text and the authority citation following paragraph (c)(3) (iii), (d) and the authority citation, to read as follows:

§ 21.264 Election of payment at the Chapter 30 or Chapter 34 educational assistance rate.

(a) *Eligibility.* A veteran who applies for, and is found entitled to training or education under Chapter 31, may elect to receive payment at the educational allowance rate and other assistance furnished under Chapter 30 or Chapter 34, for similar training in lieu of a subsistence allowance, provided the following criteria are met:

(1) The veteran has remaining eligibility for, and entitlement to educational assistance under Chapter 30 or Chapter 34;

(2) The veteran enrolls in a program of education or training approved for benefits under Chapter 30 or Chapter 34;

* * * * *

(Authority: 38 U.S.C. 1508(f); Pub. L. 98–525)

(b) * * *

(1) Chapter 30 or Chapter 34 eligibility or entitlement ends earlier;

* * * * *

(Authority: 38 U.S.C. 1508(f); Pub. L. 98-525)

(c) *Services precluded.* A veteran entitled to vocational rehabilitation training or education who elects payment at the educational assistance rate payable under Chapter 30 and Chapter 34 shall be provided the same training and rehabilitation services as other veterans under Chapter 31, but may not be provided:

* * * * *

(Authority: 38 U.S.C. 1508(f); Pub. L. 98-525)

(d) *Chapter 30 or Chapter 34 provisions applicable.* A veteran who has elected payment at the Chapter 30 or Chapter 34 educational assistance rate must meet the same terms and conditions as other veterans pursuing similar training under these programs.

(Authority: 38 U.S.C. 1508(f); Pub. L. 98-525)

8. Section 21.268 is amended by revising paragraph (b), to read as follows:

§ 21.268 Employment adjustment allowance.

* * * * *

(b) *Reelection of subsistence allowance.* A veteran who has elected payment at the Chapter 30 or Chapter 34 educational assistance allowance rate may be paid an employment adjustment allowance only if he or she reelects subsistence allowance to become effective no later than the day following completion of the period of rehabilitation to the point of employability.

(Authority: 38 U.S.C. 1508(f); Pub. L. 98-525)

* * * * *

9. Section 21.272 is amended by revising paragraph (b)(1) and adding an authority citation following paragraph (b)(3), to read as follows:

§ 21.272 Veteran-student services.

* * * * *

(b) * * *

(1) Need of the veteran to augment the subsistence allowance or payment made by the Chapter 30 or Chapter 34 rate;

* * * * *

(Authority: 38 U.S.C. 1504(a)(4), 1508(f), 1685; Pub. L. 98-525)

* * * * *

10. Section 21.276 is amended by revising paragraphs (d), (e), and (g), to read as follows:

§ 21.276 Incarcerated veterans.

* * * * *

(d) *Halfway house.* A subsistence allowance may be paid to a veteran pursuing a rehabilitation program while residing in a halfway house as a result of a felony conviction even though all of the veteran's living expenses are paid by a non-VA Federal, State, or local government program.

(Authority: 38 U.S.C. 1508(a))

* * * * *

(e) *Work-release program.* A subsistence allowance may be paid to a veteran in a work-release program as a result of a felony conviction.

* * * * *

(g) *Payment of allowance at the rates paid under Chapter 30 or Chapter 34.* A veteran incarcerated for a felony conviction or a veteran in a halfway house or work-release program who elects payment at the educational assistance rate paid under Chapter 30 or Chapter 34 shall be paid in accordance with the provisions of law applicable to other incarcerated veterans training under Chapter 30 or Chapter 34.

(Authority: 38 U.S.C. 1508(f), 1780(a); Pub. L. 98-525)

* * * * *

11. Section 21.320 is amended by revising paragraph (b)(3) and the authority citation, and paragraph (d)(3) and the authority citation, to read as follows:

§ 21.320 Awards for subsistence allowance and authorization of rehabilitation services.

* * * * *

(b) * * *

(3) The veteran elects payment at the educational assistance allowance rate, in which case the commencing date of payment is determined under provisions applicable to commencement of payment under Chapter 30 or Chapter 34.

(Authority: 38 U.S.C. 1508(a), 1508(f); Pub. L. 98-525)

* * * * *

(d) * * *

(3) A veteran has elected payment at the educational assistance rate paid under Chapter 30 or Chapter 34. The ending date of the award is determined under regulations applicable to termination of training under Chapter 30 or Chapter 34.

(Authority: 38 U.S.C. 1508(a), 1508(f); Pub. L. 98-525)

12. Section 21.330 is amended by revising paragraph (a) and the authority citation, to read as follows:

§ 21.330 Apportionment.

(a) *General.* Where in order, the VA will apportion subsistence allowance in accordance with § 3.451 of this title, subject to the limitations of § 3.458 of this title. If the veteran is in receipt of benefits at the Chapter 34 rate, apportionments shall be in accordance with § 21.4140 of this part. If the veteran is in receipt of benefits at the Chapter 30 rate, the VA will not apportion these benefits.

(Authority: 38 U.S.C. 3107(c); Pub. L. 98-525)

* * * * *

13. Section 21.334 is amended by revising the section heading, paragraph (a) and the authority citation, (b) introductory text, (b)(1), the authority citation following paragraph (b)(2), (c) introductory text, (c)(2), (c)(3), the authority citation following paragraph (c)(4), (d)(1), (d)(2) and the authority citation, and by adding paragraph (e), to read as follows:

§ 21.334 Election of payment at the Chapter 30 or Chapter 34 rate.

(a) *Election.* When the veteran elects payment of an allowance at the Chapter 30 or Chapter 34 rate, the effective dates for commencement, reduction, and termination of the allowance shall be in accordance with §§ 21.4130 through 21.4135 and § 21.1042(a)(2) of this part under Chapter 34, and §§ 21.7130 through 21.7135 and § 21.70509(a) of this part under Chapter 30.

(Authority: 38 U.S.C. 1508(f), 1780; Pub. L. 98-525

(b) *Election of payment at the Chapter 30 or Chapter 34 rate subsequent to induction into a rehabilitation program.* Election of payment at the Chapter 30 or Chapter 34 rate subsequent to induction into training is permissible under provisions of § 21.264 (a) and (b). The effective date of the election is the latest of the following dates:

(1) The commencing date determined under the provisions of § 21.4131 of this part in the case of a veteran who has elected payment at the Chapter 34 rate or determined under § 21.7131 of this part in the case of a veteran who has elected payment at the Chapter 30 rate; or

* * * * *

(Authority: 38 U.S.C. 1508(f); Pub. L. 98-525)

(c) *Reelection of subsistence allowance subsequent to induction.* If a veteran reelects subsistence allowance under provisions of § 21.264(b) of this part, the effective date of change is earliest of the following:

* * * * *

(2) The veteran's Chapter 30 or Chapter 34 delimiting date;

(3) The day after exhaustion of Chapter 30 or Chapter 34 entitlement; or

* * * * *

(Authority: 38 U.S.C. 1508(f); Pub. L. 98-525)

(d) * * *

(1) *Payment at the Chapter 30 or Chapter 34 rate.* If an otherwise eligible veteran elects payment at the Chapter 30 or Chapter 34 rate during a period between periods of instruction, the effective date of the election shall be the first day of the next period of instruction.

(2) *Subsistence allowance.* If an otherwise eligible veteran reelects subsistence allowance during leave or between periods of instruction following election of payment at the Chapter 30 and Chapter 34 rate, the effective date of the change will be the date of the reelection or the beginning of the next period of training, whichever is to the veteran's benefit.

(Authority: 38 U.S.C. 1508(f), Pub. L. 88–525)

(e) *Effect of Chapter 34 program termination.* (1) Since Chapter 34 benefits are not payable beyond December 31, 1989, any previous election of benefits at that rate is terminated as of that date;

(2) A veteran entitled to Chapter 30 benefits based on his or her Chapter 34 eligibility as of December 31, 1989, and whose election of Chapter 34 benefits is terminated as of that date under paragraph (e)(1) of this section must, if the individual desires payment at the Chapter 30 rate, elect such payment.

(Authority: 38 U.S.C. 1411(a); Pub. L. 98–525)

14. Section 21.340 is amended by revising paragraph (c) and the authority citation, to read as follows:

§ 21.340 Introduction.

* * * * *

(c) *Election of benefits at the Chapter 30 or Chapter 34 rate.* If a veteran elects to receive an allowance paid at the Chapter 30 or Chapter 34 rate, the effect of absences is determined in the same manner as provided in §§ 21.4204 and 21.4205 of this part for Chapter 34 or §§ 21.7139 and 21.7154 of this part for Chapter 30.

(Authority: 38 U.S.C. 1508(f), 1510; Pub. L. 98–525)

[FR Doc. 89–2001 Filed 1–27–89; 8:45 am]

BILLING CODE 8320–01–M

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38 CFR Part 21

Veterans Education; Waiver of the 85–15 Percent Ratio Requirement

AGENCY: Veterans Administration.

ACTION: Final regulations.

SUMMARY: Generally, the law and the Code of Federal Regulations prohibit the Veterans Administration (VA) from approving new enrollments under many of the education programs which the VA administers when the VA finds that 85 percent or more of the students enrolled are having all or part of their tuition, fees, or other charges paid to or for them by the educational institution or the VA. There is provision for waiver of this requirement. However, the pertinent regulation is not clear as to who has the authority to grant this waiver. This regulation corrects this.

EFFECTIVE DATE: December 20, 1988.

FOR FURTHER INFORMATION CONTACT: William G. Susling, Jr., Acting Assistant Director for Education Policy and Program Administration (225C), Vocational Rehabilitation and Education Service, Department of Veterans Benefits, Veterans Administration, 810 Vermont Avenue NW., Washington, DC 20420 (202) 233–2668.

SUPPLEMENTARY INFORMATION: On pages 27533 and 27534 of the **Federal Register** of July 21, 1988, there was published a proposal to amend 38 CFR Part 21 of clarify that the Director, Vocational Rehabilitation and Education Service, has the authority to waive the prohibition on approving new enrollments under many of the education programs which the VA administers when the VA finds that 85 percent or more of the students enrolled are having all or part of their tuition, fees, or other charges paid to or for them by the educational institution or the VA. Interested people were given 32 days to submit comments, objections or suggestions. The VA received no comments, objections or suggestions. Accordingly, the agency is making the amended regulation final.

The VA has determined that this amended regulation does not contain a major rule as that term is defined by E.O. 12291, entitled Federal Regulation. The regulation will not have a $100 million annual effect on the economy, and will not cause a major increase in costs or prices for anyone. It will have no significant adverse effects on competition, employment, investment, productivity, innovation, or on the ability of United States-based enterprises to compete with foreign-based enterprises in domestic or export markets.

The Administrator of Veterans Affairs has certified that this amended regulation will not have a significant economic impact on a substantial number of small entities as they are defined in the Regulatory Flexibility Act (RFA), 5 U.S.C. 601–612. Pursuant to 5 U.S.C. 605(b), the amended regulation, therefore, is exempt from the initial and final regulatory flexibility analyses requirements of sections 603 and 604.

This certification can be made because this change simply specifies the VA official who is authorized to exercise waiver authority. It does not change that authority. Moreover, it has been the agency's administrative experience that fewer than five educational institutions apply each year to the Director, Vocational Rehabilitation and Education Service, for a waiver. Many of these are not small entities. Even though a slight increase in this number can be expected as enrollements under the Montgomery GI Bill—Active Duty increase, the VA does not think that the number of small entities affected by this proposal will be substantial. There will be no significant economic impact on a substantial number of other small entities, i.e., small businesses and small governmental jurisdictions.

The Catalog of Federal Domestic Assistance number for the program affected by this regulation is 64.111.

List of Subjects in 38 CFR Part 21

Civil rights, Claims, Education, Grant programs—education, Loan program—education, Reporting and recordkeeping requirements, Schools, Veterans, Vocational education, Vocational rehabilitation.

Approved: December 20, 1988.

Thomas K. Turnage,

Administrator.

PART 21—[AMENDED]

30 CFR Part 21, Vocational Rehabilitation and Education, § 21.4201 is amended by revising the first two sentences of paragraph (f)(1), and paragraphs (f)(1)(ii) and (h) to read as follows:

§ 21.4201 Restrictions on enrollment; percentage of students receiving financial support.

* * * * *

(f) * * *

(1) Schools must submit to the VA all calculations needed to support the exemption found in paragraph (c)(4) of this section. If the school is organized on a term, quarter, or semester basis, it shall make that submission no later than 30 days after the beginning of the first term for which the school wants the exemption to apply. * * *

* * * * *

(ii) Until such time as the total number of veterans and eligible persons receiving assistance under chapters 30, 31, 32, 34, 35 or 36, title 38, United States Code, who are enrolled in the educational institution offering the

course, equals more than 35 percent of the total student enrollment at the educational institution (computed separately for the main campus and any branch or extension of the institution). At that time procedures contained in paragraph (f)(2) of this section shall apply.

(Authority: 38 U.S.C. 1673(d); Pub. L. 98-525)

* * * * *

(h) *Waivers.* Schools which desire a waiver of the provisions of paragraph (a) of this section for a course where the number of full-time equivalent students receiving VA education benefits equals or exceeds 85 percent of the total full-time equivalent enrollment in the course may apply for a waiver to the Director, Vocational Rehabilitation and Education Service, through the Director of the VA field station of jurisdiction. When applying, a school must submit sufficient information to allow the Director, Vocational Rehabilitation and Education Service, to judge the merits of the request against the criteria shown in this paragraph. This information and any other pertinent information available to the VA shall be considered in relation to these criteria:

(1) Availability of comparable alternative educational facilities effectively open to veterans in the vicinity of the school requesting a waiver.

(2) Status of the school requesting a waiver as a developing institution primarily serving a disadvantaged population. The school should enclose a copy of its notice from the Department of Education that the school is eligible to be considered for a grant under the Strengthening Institutions Program or the Special Needs Program, if applicable. Otherwise the school should submit data sufficient to allow the Director, Vocational Rehabilitation and Education Service, to judge whether the school is similar to institutions which the Department of Education considers to be eligible to apply for a grant under these programs. The pertinent criteria and data categories are published in Title 34, Code of Federal Regulations, Chapter VI, Part 624, Subpart A; Part 625, Subpart A; and Part 626, Subpart A. The requirements of those criteria that a school be a "public or nonprofit" institution need not be met.

(3) Previous compliance history of the school, including such factors as false or deceptive advertising complaints, enrollment certification timeliness and accuracy, and amount of school liability indebtedness to the VA.

(4) General effectiveness of the school's program in providing educational and employment opportunities to the particular veteran population it serves. Factors to be considered should include the percentage of veteran-students completing the entire course, ratio of educational and general expenditures to full-time equivalency enrollment, etc.

(Authority: 38 U.S.C. 1673(d); Pub. L. 94-502, Pub. L. 95-202)

[FR Doc. 89-2000 Filed 1-27-89; 8:45 am]

BILLING CODE 8320-01-M

38 CFR Part 21

Veterans Education; Forfeiture of Education Benefits

AGENCY: Veterans Administration.

ACTION: Final regulations.

SUMMARY: A veteran can forfeit his or her education benefits by engaging in subversive activities or, in limited circumstances, committing fraud or treasonable acts. The regulation concerning forfeiture of education benefits indicates that forfeiture is governed by various Veterans Administration (VA) regulations. However, the regulations which are referenced do not deal with forfeiture. This amended regulation corrects that error.

EFFECTIVE DATE: December 23, 1988.

FOR FURTHER INFORMATION CONTACT: William G. Susling, Jr., Acting Assistant Director for Education Policy and Program Administration (225C), Vocational Rehabilitation and Education Service, Department of Veterans Benefits, Veterans Administration, 810 Vermont Avenue NW, Washington, DC 20420 (202) 233-2668.

SUPPLEMENTARY INFORMATION: In the **Federal Register** of July 18, 1988, (53 FR 27054), there was published a proposal to amend 38 CFR Part 21 to state the correct regulations which govern a veteran's forfeiture of educational assistance allowance. Interested people were given 30 days to submit comments, suggestions or objections. The VA received no comments, suggestions or objections. Accordingly, the agency is making the amended regulation final.

The VA has determined that this amended regulation does not contain a major rule as that term is defined by E.O. 12291, entitled Federal Regulation. The regulation will not have a $100 million annual effect on the economy, and will not cause a major increase in costs or prices for anyone. It will have no significant adverse effects on competition employment, investment, productivity, innovation, or on the ability of United States-based enterprises to compete with foreign-based enterprises in domestic or export markets.

The Administrator of Veterans Affairs has certified that this amended regulation will not have a significant economic impact on a substantial number of small entities as they are defined in the Regulatory flexibility Act (RFA), 5 U.S.C. 601-612. Pursuant to 5 U.S.C. 605(b), the amended regulation, therefore, is exempt from the initial and final regulatory flexibility analyses requirements of sections 603 and 604.

This certification can be made because the regulation affects only individuals. It will have no significant economic impact on small entites, i.e., small businesses, small private and nonprofit organizations and small governmental jurisdictions.

The Catalog of Federal Domestic Assistance number for the program affected by this regulation is 64.111.

List of Subjects in 38 CFR Part 21

Civil rights, Claims, Education, Grant programs-education, Loan programs-education, Reporting and recordkeeping requirements, Schools, Veterans, Vocational education, Vocational rehabilitation.

Approved: December 23, 1988.

Thomas K. Turnage,

Administrator.

PARTS 21—[AMENDED]

38 CFR Part 21 is amended by revising § 21.4007 to read as follows:

§ 21.4007 Forfeiture.

The rights of a veteran or eligible person to receive educational assistance allowance or special training allowance are subject to forfeiture under the provisions of §§ 3.900, 3.901 (except paragraph (c)), 3.902 (except paragraph (c)), 3.903, 3.904, 3.905 and 19.2 of this chapter.

(Authority: 38 U.S.C. 3503, 3504 and 3505)

[FR Doc. 89-2002 Filed 1-27-89; 8:45 am]

BILLING CODE 8320-01-M

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 270

[SW-FRL-3463-6]

Amendment to Requirements for Hazardous Waste Incinerator Permits

AGENCY: Environmental Protection Agency (EPA)

ACTION: Final rule.

SUMMARY: Today's rule clarifies the requirements of 40 CFR 270.62(d), which describes procedures for permitting existing hazardous waste incineration facilities under the Resource Conservation and Recovery Act (RCRA).

The amendments to 40 CFR 270.62(d) will make it very clear that existing incineration facilities must either conduct a trial burn or submit other information as specified in § 270.19 (a) or (c) before a permit can be written for that facility.

DATES: This regulation becomes effective March 1, 1989.

FOR FURTHER INFORMATION CONTACT: Sonya Stelmack, Assistance Branch, Office of Solid Waste (0S–343), Environmental Protection Agency, 401 M Street SW., Washington, DC 20460, Phone (202) 382–4206, or the RCRA Hotline (800) 424–9346 (or 382–3000 in the Washington, DC, metropolitan area).

SUPPLEMENTARY INFORMATION:

Table of Contents

I. Background
II. Response to Comments
III. State Authority
IV. Effective Date
V. Regulatory Analysis

I. Background

EPA issued a proposed rule in the **Federal Register** on June 21, 1988 (53 FR 23342), to clarify the intent of the regulatory language in 40 CFR 270.62(d). Specifically, the Agency wished to clarify that permit conditions for existing hazardous waste incinerators must be based on pre-permit trial burn results under § 270.19(b) or other data submitted by the applicant as specified in § 270.19(c), unless the applicant is not required to conduct a trial burn pursuant to an exemption under § 270.19(a). "Incinerators" are defined in 40 CFR Part 260 as "* * * any enclosed device using controlled flame combustion that neither meets the criteria for classification as a boiler nor is listed as an industrial furnace."

EPA promulgated § 270.19 on April 1, 1983 (48 FR 14239), to require that the Part B of a permit application for incinerators include one of the following: (1) Sufficient information submitted under § 270.19(a) to obtain an exemption from compliance with the performance standards in § 264.343 and the operating conditions in § 264.345; (2) a trial burn plan or the results of a trial burn under § 270.19(b), including all required determinations, in accordance with § 270.62; or (3) information in lieu of a trial burn under § 270.19(c) that is sufficient to determine compliance with performance standards and develop operating conditions under §§ 264.343 and 264.345, respectively.

In the proposal for this rulemaking, EPA stated its belief that § 270.19 (a) and (c) are explicit as to what information is required prior to issuance of a permit, but the Agency recognized that language in § 270.62(d) is potentially ambiguous as to what must be accomplished under § 270.19(b) prior to issuing a permit. Specifically, the Agency stated its concern that a loose interpretation of § 270.62(d) might lead a Regional Administrator or State Director to set a date for submittal of trial burn after the permit is issued. This strained interpretation of § 270.62(d) might lead one to think that permits can be written under § 270.19(b) based on the submission of a trial burn plan instead of the results of the trial burn, contrary to the intended meaning of § 270.62(d). Although the Agency is making this clarification to the actual language of § 270.62(d) in a final rule, EPA believes that the intended meaning of § 270.62(d) has been clear since § 270.62(d) was promulgated.

Today the Agency is promulgating final regulations identical to those proposed. The amendments to § 270.62(d) make it very clear that existing incineration facilities must (1) conduct a trial burn and submit the trial burn results prior to permit issuance, or (2) submit other information as specified in § 270.19 (a) or (c) before a permit can be written for that facility. Should a permit applicant submit trial burn results under § 270.19(b), permit conditions must be established using the trial burn results. Conversely, if the applicant submits other information under § 270.19 (a) or (c), the permit must be based on that information.

II. Response to Comments

The Agency received only one comment, which requested that EPA clarify whether this rule is applicable to permits that are already final. In response to the commenter's concerns, EPA has decided that today's rule, which will become effective 30 days after final promulgation, is applicable only to pending and future permit applications and permits. Accordingly, should a hazardous waste incinerator owner not have a final permit decision issued as of the effective date of this rule or should a hazardous waste incinerator owner seek, after the effective date of this rule, a permit modification which requires a trial burn, the incinerator will be subject to these requirements, i.e., the trial burn must be completed prior to permit issuance or permit modification.

III. State Authority

A. Applicability of Rule in Authorized States

Under section 3006 of RCRA, EPA may authorize qualified States to administer and enforce the RCRA program within the State. (See 40 CFR Part 271 for the standards and requirements for authorization.) Following authorization, EPA retains enforcement authority under sections 3008, 3013, and 7003 of RCRA, although authorized States have primary enforcement responsibility.

Prior to the Hazardous and Solid Waste Amendments of 1984 (HSWA), a State with final authorization administered its hazardous waste program entirely in lieu of EPA administering the Federal program in that State. The Federal requirements no longer applied in the authorized State, and EPA could not issue permits for any facilities in the State that the State was authorized to permit. When new, more stringent Federal requirements were promulgated or enacted, the State was obliged to enact equivalent authority within specified time frames. New Federal requirements did not take effect in an authorized State until the State adopted the requirements as State law.

In contrast, under section 3006(g) of RCRA, 42 U.S.C. 6926(g), new requirements and prohibitions imposed by HSWA take effect in authorized States at the same time that they take effect in unauthorized States. EPA is directed to carry out those requirements and prohibitions in authorized States, including the issuance of permits, until the State is granted authorization to do so. While States must still adopt HSWA-related provisions as State law to retain final authorization, HSWA applies in authorized States in the interim.

B. Effect on State Authorization

Today's rule promulgates clarifying regulations that will not be effective in authorized States since the regulations will not be imposed pursuant to the Hazardous and Solid Waste Amendments of 1984. Thus, the regulations will be effective only in those States that do not have final authorization.

40 CFR 271.21(e)(2) requires States that have final authorization to modify their programs to reflect Federal program changes and to subsequently submit the modification to EPA for approval. The deadline by which the State must modify its program to adopt this final regulation will be determined by today's date, in accordance with

§ 271.21(e). These deadlines can be extended in certain cases (40 CFR 271.21(e)(3)). Once EPA approves the modification, the State requirements become Subtitle C RCRA requirements.

States that submit their official application for final authorization less than 12 months after the effective date of these standards are not required to include standards equivalent to these standards in their application. However, the State must modify its program by the deadlines set forth in § 271.21(e). States that submit official applications for final authorization 12 months after the effective date of those standards must include standards equivalent to these standards in their application. 40 CFR 271.3 sets forth the requirements a State must meet when submitting its final authorization application.

In authorized States, this rule will not be applicable until the State revises its program to adopt equivalent regulations under State law. However, because EPA is only clarifying current regulatory language, the Agency assumes that these requirements are already in effect in most States and, therefore, a simplified application will be allowed for the program revision necessitated by this final rule. In order to maintain authorization, a State's revision application may consist of a certification by the State Attorney General that he/she interprets his/her State's existing regulations in the manner described in this rule. Otherwise, the State's regulations must be amended to reflect the clarification set forth in this rule. If a State Attorney General cannot certify that he/she interprets his/her State's existing regulations in the manner described in the rule or if the State fails to make necessary regulatory amendments, that State's program will be less stringent than the Federal program and will be out of compliance with the RCRA's requirements for authorized State programs.

IV. Effective Date

This final rule will be effective 30 days after promulgation. Section 3010(b) of RCRA provides that regulations concerning permits for the treatment, storage, or disposal of hazardous waste shall take effect six months after the date of promulgation. However, section 3010(b)(1) provides for a shorter period if the Agency finds that the regulated community does not need six months to comply with the next regulation. Since this rule merely clarifies a requirement that is already in effect and the regulated community should already be in compliance, EPA believes that good cause exists to make this rule effective less than six months after promulgation.

V. Regulatory Analysis

A. Regulatory Impact Analysis

Under Executive Order 12291, EPA must determine whether a regulation is "major" and thus whether EPA must prepare and consider a Regulatory Impact Analysis in connection with the rule. Today's final rule clarifies existing requirements and is not major because it will not result in an annual effect on the economy of $100 million or more, nor will it result in an increase in cost or prices to industry. There will be no adverse impact on the ability of the U.S. based enterprise to compete with foreign based enterprises in domestic or export markets. Therefore, the Agency does not believe a Regulatory Impact Analysis is required for today's rule. This final rule has been submitted to the Office of Management and Budget (OMB) for review in accordance with Executive Order 12291.

B. Regulatory Flexibility Act

Under the Regulatory Flexibility Act, 5 U.S.C. 601 *et seq.*, at the time an agency publishes any proposed or final rule, it must prepare a regulatory flexibility analysis that describes the impact of the rule on small entities unless the Administrator certifies that the rule will not have a significant economic impact on a substantial number of small entities. Today's final rule merely clarifies a requirement that is already in effect. It does not impose any additional requirements on or effect the compliance burdens of the regulated community. Therefore, pursuant to 5 U.S.C. 601(b), I certify that this regulation will not have a significant economic impact on a substantial number of small entities.

List of Subjects in 40 CFR Part 270

Administrative practice and procedure, Hazardous waste, Reporting and recordkeeping requirements, Permit modification procedures, Waste treatment and disposal.

Date: January 19, 1989.

Lee M. Thomas,

Administrator.

40 CFR Part 270 is amended as follows:

PART 270—EPA ADMINISTERED PERMIT PROGRAMS: THE HAZARDOUS WASTE PERMIT PROGRAM

1. The authority citation for Part 270 continues to read as follows:

Authority: Secs. 1006, 2002, 3005, 3007, 3019, and 7004 of the Solid Waste and Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 6905, 6912, 6925, 6927, 6939, and 6974).

2. Section 270.62 is amended by revising paragraph (d) to read as follows:

§ 270.62 Hazardous waste incinerator permits.

* * * * *

(d) For the purpose of determining feasibility of compliance with the performance standards of § 264.343 of this chapter and of determining adequate operating conditions under § 264.345 of this chapter, the applicant for a permit for an existing hazardous waste incinerator must prepare and submit a trial burn plan and perform a trial burn in accordance with § 270.19(b) and paragraphs (b)(2) through (b)(9) of this section or, instead, submit other information as specified in § 270.19(c). Applicants submitting information under § 270.19(a) are exempt from compliance with §§ 264.343 and 264.345 and, therefore, are exempt from the requirement to conduct a trial burn. Applicants who submit trial burn plans and receive approval before submission of a permit application must complete the trial burn and submit the results, specified in paragraph (b)(6), with Part B of the permit application. If completion of this process conflicts with the date set for submission of the Part B application, the applicant must contact the Director to establish a later date for submission of the Part B application or the trial burn results. Trial burn results must be submitted prior to issuance of the permit. When the applicant submits a trial burn plan with Part B of the permit application, the Director will specify a time period prior to permit issuance in which the trial burn must be conducted and the results submitted.

[FR Doc. 89-1789 Filed 1-27-89; 8:45 am]

BILLING CODE 6560-50-M

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 22

Common Carrier Public Mobile Services Information Not Necessary To File Renewals on Microfiche

January 24, 1989.

AGENCY: Federal Communications Commission.

ACTION: Notice on effectiveness.

SUMMARY: On November 16, 1988, the Commission released a *Report and Order*, CC Docket No. 88–161, FCC 88–339, published on December 5, 1988, 53 FR 48908 *(Report and Order)* which amended § 22.6 of the Commission's Rules to require that filings of more than 5 pages be submitted on microfiche.

The *Report and Order* stated that the information collection contained in the rule changes were subject to review by the Office of Management and Budget (OMB) and that a public notice would be issued announcing their effective date. *ID.*, at para. 31. OMB has not completed its review of the information collection changes pertaining to the microfiche filing requirement. Therefore, those renewal applications, FCC Form 405, filed on or before March 1, 1989, the filing deadline, for Public Land Mobile non-wireline common carriers do not have to be filed on microfiche.

FOR FURTHER INFORMATION CONTACT: Sandra Donnell, (202) 632–6450.

Federal Communications Commission.

Donna R. Searcy,

Secretary.

[FR Doc. 89–1952 Filed 1–27–89; 8:45 am]

BILLING CODE 6712–01–M

Proposed Rules

Federal Register
Vol. 54, No. 18
Monday, January 30, 1989

This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 86-ASW-22]

Airworthiness Directives; Aerospatial (Societe Nationale Industrielle Aerospatiale (SNIAS)) Model AS 350 and AS 355 Series Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of Proposed Rulemaking (NPRM).

SUMMARY: This notice proposes to amend an existing airworthiness directive (AD) which requires repetitive inspections, rework, or replacement, as necessary, of main rotor head components, main gearbox suspension struts, and landing gear ground resonance components on Aerospatiale Model AS 350 and AS 355 series helicopters. This proposed amendment is needed to change the repetitive inspection interval to correspond with the service bulletins and the master servicing recommendations (MSR) standard repetitive inspection interval referenced in the service bulletins. The proposed amendment would result in reduced maintenance impacts and eliminate unnecessary operational costs.

DATE: Comments must be received on or before March 1, 1989.

ADDRESSES: Comments on the proposal may be mailed in duplicate to: Rules Docket, Office of the Assistant Chief Counsel, FAA, Forth Worth, Texas 76193-0007, or delivered in duplicate to Office of the Assistant Chief Counsel, 4400 Blue Mound Road, Room 158, Building 3B, Forth Worth, Texas. Comments must be marked: Docket No. 86-ASW-22. Comments may be inspected at the above location between the hours of 8 a.m. and 4:30 p.m. weekdays, except Federal holidays.

The applicable service information may be obtained from Aerospatiale Helicopter Corporation, 2701 Forum Drive, Grand Prairie, Texas 75053-4005, or may be examined in the Regional Rules Docket.

FOR FURTHER INFORMATION CONTACT: Mr. Mike Mathias, FAA, Rotorcraft Standards Staff, Fort Worth, Texas 76193-0111, telephone (817) 624-5123.

SUPPLEMENTARY INFORMATION: Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Conmmunications should identify the regulatory docket number and be submitted in duplicate to the address specified above. All communications received on or before the closing date for comments will be considered by the FAA before taking action on the proposed rule. The proposal contained in this notice may be changed in light of comments.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the proposed rule. All comments submitted will be available, both before and after the closing date for comments, in the Office of Assistant Chief Counsel for examination by interested persons. A report summarizing each FAA-public contact, concerned with the substance of the proposed AD, will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit a self-addressed, stamped postcard on which the following statement is made: Comments to Docket No. 86-ASW-22. The postcard will be date/time stamped and returned to the commenter.

Amendment 39-5517 (52 FR 13233; April 22, 1987), AD 86-15-10, currently requires repetitive inspections of the main rotor head components, main gearbox suspension bars, and ground resonance prevention system components at 300-hour intervals on Aerospatiale Model AS 350 and AS 355 helicopters. Since issuing Amendment 39-5517, the FAA has received reports of confusion and unnecessary costs caused by the difference in the 300-hour inspection interval of Amendment 39-5517 and the 400-hour inspection interval in Aerospatiale Service Bulletins 01.17a or 01.14a, incorporated by reference into Amendment 39-5517.

After reviewing the basis for the 300-hour inspection interval of Amendment 39-5517 and the service history since issuing Amendment 39-5517, the FAA has determined the 300-hour inspection interval could be extended to 400 hours without adversely impacting safety. Therefore, the FAA is proposing to amend Amendment 39-5517 by changing the inspection interval of paragraph (c) to 400 hours' time in service on all Aerospatiale Model AS 350 and AS 355 helicopters.

This proposed amendment is relieving in nature and imposes no additional burden on any person.

The regulations proposed herein would not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this proposal will not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

The FAA has determined that this proposed regulation involves 477 helicopters, and it is estimated that no cost will be incurred as a result of this proposal. Therefore, I certify that this action (1) is not a "major rule" under Executive Order 12291; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); (3) does not warrant preparation of a regulatory evaluation as the anticipated impact is so minimal; and (4) if promulgated, will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

The Proposed Amendment

PART 39—AIRWORTHINESS DIRECTIVES

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration proposes to amend § 39.13 of Part 39 of the FAR as follows:

1. The authority citation for Part 39 continues to read as follows:

Authority: 49 U.S.C. 1354(a), 1421, and 1423; 49 U.S.C. 106(g) (Revised Pub. L. 97-449, January 12, 1983); and 14 CFR 11.85.

§ 39.13 [Amended]

2. By amending Amendment 39-5517 (52 FR 13233; April 22, 1987), AD 86-15-10, by revising paragraph (c) to read as follows:

Aerospatiale: Applies to Aerospatiale Model AS 350 and AS 355 series helicopters certificated in any category.

Compliance is required as indicated, unless already accomplished.

* * * * *

(c) Repeat the inspections and rework of paragraphs (a) and (b) in intervals not to exceed 400 hours' time in service.

* * * * *

Issued in Fort Worth, Texas, on January 12, 1989.

James D. Erickson,

Acting Manager, Rotocraft Directorate, Aircraft Certification Service.

[FR Doc. 89-1999 Filed 1-27-89; 8:45 am]

BILLING CODE 4910-13-M

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14 CFR Part 39

[Docket No. 88-NM-209-AD]

Airworthiness Directives; Aerospatiale Model ATR-42 Series Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of Proposed Rulemaking (NPRM).

SUMMARY: This notice proposes to revise an existing airworthiness directive (AD), applicable to Aerospatiale Model ATR-42 series airplanes, which currently requires modification of the propeller brake electronic control wiring. That action was prompted by reports of electrical interference causing the brake to engage prior to command. This proposal would require adding a relay to the propeller brake control unit to maintain the electrical power supply, and replacing the push button switch with a two-position mechanical switch. This action is prompted by reports of electrical interference causing the brake to engage prior to command, incomplete brake locking due to interruption of the power supply, and unlocking of the propeller brake due to non-latching of the push button switch. This condition, if not corrected, could lead to overheating of the propeller brake and damage to the engine.

DATES: Comments must be received no later than March 27, 1989.

ADDRESSES: Send comments on the proposal in duplicate to Federal Aviation Administration, Northwest Mountain Region, Transport Airplane Directorate, ANM-103, Attention: Airworthiness Rules Docket No. 88-NM-209-AD, 17900 Pacific Highway South, C-68966, Seattle, Washington 98168. The applicable service information may be obtained from Aerospatiale, 316 Route de Bayonne, 31060 Toulouse Cedex 03, France. This information may be examined at the FAA, Northwest Mountain Region, 17900 Pacific Highway South, Seattle, Washington, or Seattle Aircraft Certification Office, 9010 East Marginal Way South, Seattle, Washington.

FOR FURTHER INFORMATION CONTACT: Mr. Robert McCracken, Standardization Branch, ANM-113; telephone (206) 431-1979. Mailing address: FAA, Northwest Mountain Region, 17900 Pacific Highway South, C-68966, Seattle, Washington, 98168.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Communications should identify the regulatory docket number and be submitted in duplicate to the address specified above. All communications received on or before the closing date for comments specified above will be considered by the Administrator before taking action on the proposed rule. The proposals contained in this Notice may be changed in light of the comments received. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report summarizing each FAA/public contact concerned with the substance of this proposal will be filed in the Rules Docket.

Availability of NPRM

Any person may obtain a copy of this Notice of Proposed Rulemaking (NPRM) by submitting a request to the FAA, Northwest Mountain Region, Transport Airplane Directorate, ANM-103, Attention: Airworthiness Rules Docket No. 88-NM-209-AD, 17900 Pacific Highway South, C-68966, Seattle, Washington 98168.

Discussion

On June 23, 1988, the FAA issued AD 88-14-06, Amendment 39-5967 (53 FR 25134; July 5, 1988), applicable to Aerospatiale Model ATR-42 series airplanes, that requires modification of the propeller brake electronic control wiring. That action was prompted by reports of electrical interference causing the brake to engage prior to command. This condition, if not corrected, could result in an unsymmetrical drag/thrust on landing and/or damage to the propeller brake and engine.

Sine issuance of that AD, there have been additional reports of electrical interference causing the brake to engage prior to command, even though the modification required by the existing AD (Modification 1551) had been installed on the airplane. Additionally, on certain airplanes that have accomplished the required modification, there have been reports of the brake locking in the mid-position, due to loss of electrical power. There have also been reports of the brake unlocking approximately 10 seconds after locking, due to a faulty switch on the propeller brake control panel. This condition, if not corrected, could lead to overheating of the propeller brake and damage to the engine.

Aerospatiale has issued Service Bulletin ATR42-61-0014, Revision 2, dated November 15, 1988, which describes procedures to add one relay to the brake control unit and to modify associated wiring.

Aerospatiale has also issued Service Bulletin ATR42-61-0010, Revision 3, dated December 19, 1988, which describes procedures to replace the pushbutton switch with a two-position mechanical swtich.

The Direction Générale de L'Aviation Civile (DGAC), which is the airworthiness authority of France, has classified both service bulletins as mandatory and has issued Airworthiness Directives 88-147-015 (B) and 87-156-008(B) Revision 1, both dated November 16, 1988, addressing these subjects.

Since issuance of AD 88-14-06, Aerospatiale has issued Revision 1 to Service Bulletin ATR42-61-0016, dated September 1, 1988, to include additional procedures concerning the optional removal of the prop brake.

This airplane model is manufactured in France and type certificated in the United States under the provisions of § 21.29 of the Federal Aviation Regulations and the applicable bilateral airworthiness agreement.

Since this condition is likely to exist or develop on other airplanes of this same type design registered in the United States, an AD is proposed which would amend AD 88-14-06, Amendment 39-5967, to require modification of the propeller brake control unit and replacement of the pushbutton switch with a two-position mechanical switch, in accordance with the service bulletins previously mentioned. This proposal would also revise paragraph B. of the existing AD to reflect Revision 1 of Aerospatiale Service Bulletin ATR42-

61-0016 for propeller brake removal procedures.

It is estimated that 38 airplanes of U.S. registry would be affected by this AD, that it would take approximately 11 manhours per airplane to accomplish the required actions, and that the average labor cost would be $40 per manhour. The required parts will be provided by the manufacturer at no cost to the operator. Based on these figures, the total cost impact of the AD on U.S. operators is estimated to be $16,720.

The regulations proposed herein would not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this proposal would not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For these reasons, the FAA has determined that this document (1) involves a proposed regulation which is not major under Executive Order 12291 and (2) is not a significant rule pursuant to the Department of Transportation Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); and it is further certified under the criteria of the Regulatory Flexibility Act that this proposed rule, if promulgated, will not have a significant economic impact, positive or negative, on a substantial number of small entities because few, if any Aerospatiale Model ATR-42 series airplanes are operated by small entities. A copy of a draft regulatory evaluation prepared for this action is contained in the regulatory docket.

List of Subjects in 14 CFR Part 39

Aviation safety, Aircraft.

The Proposed Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration proposes to amend § 39.13 of Part 39 of the Federal Aviation Regulations (14 CFR 39.13) as follows:

PART 39—[AMENDED]

1. The authority citation for Part 39 continues to read as follows:

Authority: 49 U.S.C. 1354(a), 1421 and 1423; 49 U.S.C. 106(g) (Revised Pub. L. 97-449, January 12, 1983); and 14 CFR 11.89.

§ 39.13 [Amended]

2. By revising AD 88-14-06, Amendment 39-5967 (53 FR 25134; July 5, 1988), as follows:

Aerospatiale: Applies to certain ATR-42 series airplanes, as listed in Aerospatiale Service Bulletins ATR42-61-0010, Revision 2, dated June 21, 1988; ATR42-61-0013, Revision 1, dated December 8, 1987; and ATR42-61-0014, Revision 2, dated November 15, 1988, certificated in any category. Compliance is required within 100 hours time-in-service after the effective date of this AD, unless already accomplished.

To prevent the propeller brake from overheating and causing damage to the engine, accomplish the following.

A. For airplanes listed in Aerospatiale Service Bulletin No. ATR42-61-0013, Revision 1, dated December 8, 1987: Modify the propeller brake electronic control wiring, in accordance with this service bulletin.

B. For airplanes listed in Aerospatiale Service Bulletin No. ATR42-61-0014, Revision 2, dated November 15, 1988: Modify the propeller brake control unit, in accordance with this service bulletin.

C. For the airplanes listed in Aerospatiale Service Bulletin No. ATR42-61-0010, Revision 3, dated December 19, 1988: Replace the pushbutton switch with a two-position mechanical switch, in accordance with this service bulletin.

D. As an alternative to paragraph A., B., and C., above, operators may remove the propeller brake from the airplane in accordance with Aerospatiale Service Bulletin No. ATR42-61-0016, Revision 1, dated September 1, 1988.

E. An alternate means of compliance or adjustment of the compliance time, which provides an acceptable level of safety, may be used when approved by the Manager, Standardization Branch, ANM-113, FAA, Northwest Mountain Region.

Note.—The request should be forwarded through an FAA Principal Maintenance Inspector (PMI), who may add any comments and then send it to the Manager, Standardization Branch, ANM-113.

F. Special flight permits may be issued in accordance with FAR 21.197 and 21.199 to operate airplanes to a base for the accomplishment of the modifications required by this AD.

All persons affected by this directive who have not already received the appropriate service documents from the manufacturer may obtain copies upon request to Aerospatiale, 316 Route de Bayonne, 31060 Toulouse Cedex 03, France. These documents may be examined at the FAA, Northwest Mountain Region, 17900 Pacific Highway South, Seattle, Washington, or Seattle Aircraft Certification Office, 9010 East Marginal Way South, Seattle, Washington.

Issued in Seattle, Washington, on January 18, 1989.

Steven B. Wallace,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 89-1998 Filed 1-27-89; 8:45 am]

BILLING CODE 4910-13-M

14 CFR Part 39

[Docket No. 88-NM-213-AD]

Airworthiness Directives; Aerospatiale Model ATR42-200 and -300 Series Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of Proposed Rulemaking (NPRM).

SUMMARY: This notice proposes a new airworthiness directive (AD), applicable to Aerospatiale Model ATR42-200 and -300 series airplanes, which would require a one-time inspection and replacement, if necessary, of certain outboard bearings of the main wheel assemblies. This proposal is prompted by reports of bearing failure. This condition, if not corrected, could result in loss of a main landing gear wheel and partial loss of control of the airplane.

DATES: Comments must be received no later than March 27, 1989.

ADDRESSES: Send comments on the proposal in duplicate to the Federal Aviation Administration, Northwest Mountain Region, Transport Airplane Directorate, ANM-103, Attention: Airworthiness Rules Docket No. 88-NM-213-AD, 17900 Pacific Highway South, C-68966, Seattle, Washington 98168. The applicable service information may be obtained from Aerospatiale, 316 Route de Bayonne, 31060 Toulouse, Cedex 03, France. This information may be examined at the FAA, Northwest Mountain Region, 17900 Pacific Highway South, Seattle, Washington, or the Seattle Aircraft Certification Office, 9010 East Marginal Way South, Seattle, Washington.

FOR FURTHER INFORMATION CONTACT: Mr. Robert McCracken, Standardization Branch, ANM-113; telephone (206) 431-1979. Mailing address: FAA, Northwest Mountain Region, 17900 Pacific Highway South, C-68966, Seattle, Washington 98168.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Communications should identify the regulatory docket number and be submitted in duplicate to the address specified above. All communications received on or before the closing date for comments specified above will be considered by the Administrator before taking action on the proposed rule. The proposals

contained in this Notice may be changed in light of the comments received. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report summarizing each FAA/public contact concerned with the substance of this proposal will be filed in the Rules Docket.

Availability of NPRM

Any person may obtain a copy of this Notice of Proposed Rulemaking (NPRM) by submitting a request to the FAA, Northwest Mountain Region, Transport Airplane Directorate, ANM-103, Attention: Airworthiness Rules Docket No. 88-NM-213-AD, 17900 Pacific Highway South, C-68966, Seattle, Washington 98168.

Discussion

The Direction Générale de L'Aviation Civile (DGAC), which is the airworthiness authority of France, in accordance with existing provisions of a bilateral airworthiness agreement, has notified the FAA of an unsafe condition which may exist on Aerospatiale Model ATR42 series airplanes. There have been numerous reports of bearing failure due to certain defective bearings installed in the main landing gear wheel assemblies on Model ATR42 series airplanes. The subject bearings were manufactured during a specific period, and are marked with date code "JV". This condition, if not corrected, could result in loss of a main landing gear wheel and partial loss of control of the airplane while on the ground.

Aerospatiale has issued Service Bulletin Number ATR42-32-0018, Revision 2, dated November 15, 1988, which describes procedures for a one-time inspection of the outboard bearings of the main wheel assemblies for Part Number L910349, date code "JV", and replacement of those bearings with bearings not having the "JV" date code. The Aerospatiale service bulletin references Loral Service Bulletins ATR42-32-40-7 and ATR42-32-40-8 for identification, inspection, and replacement procedures. The DGAC has classified the Aerospatiale service bulletin as mandatory and has issued an Airworthiness Directive No. 88-135-014(B) addressing this subject.

This airplane model is manufactured in France and type certificated in the United States under the provisions of § 21.29 of the Federal Aviation Regulations and the applicable bilateral airworthiness agreement.

Since this condition is likely to exist or develop on airplanes of this model registered in the United States, an AD is proposed that would require a one-time inspection of the outboard bearings of the main wheel assemblies for "JV"-coded bearings, and replacement of these bearings, if necessary.

It is estimated that 38 airplanes of U.S. registry would be affected by this AD, that it would take approximately 2 manhours per airplane to accomplish the required actions, and that the average labor cost would be $40 per manhour. Required parts will be provided by the manufacturer at no charge. Based on these figures, the total cost impact of this AD to U.S. operators is estimated to be $3,040.

The regulations proposed herein would not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this proposal would not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, the FAA has determined that this document (1) involves a proposed regulation which is not major under Executive Order 12291 and (2) is not a significant rule pursuant to the Department of Transportation Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); and it is further certified under the criteria of the Regulatory Flexibility Act that this proposed rule, if promulgated, will not have a significant economic impact, positive or negative, on a substantial number of small entities because of the minimal cost of compliance per airplane ($80). A copy of a draft regulatory evaluation prepared for this action is contained in the regulatory docket.

List of Subjects in 14 CFR Part 39

Aviation safety, Aircraft.

The Proposed Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration proposes to amend § 39.13 of Part 39 of the Federal Aviation Regulations as follows:

PART 39—[AMENDED]

1. The authority citation for Part 39 continues to read as follows:

Authority: 49 U.S.C. 1354(a), 1421 and 1423; 49 U.S.C. 106(g) (Revised Pub. L. 97-449, January 12, 1983); and 14 CFR 11.89.

§ 39.13 [Amended]

2. By adding the following new airworthiness directive:

Aerospatiale: Applies to all Model ATR42-200 and -300 series airplanes, certificated in any category. Compliance required as indicated, unless previously accomplished.

To prevent loss of a main landing gear wheel due to defective bearings, accomplish the following:

A. Within 30 days after the effective date of this AD, inspect outboard bearings, Part Number (P/N) Loral L910349, of the Loral main landing gear wheels, P/N 5006856, 5006856-1, 5006856-2 and 5006856-3, and replace those having a "JV" date code, in accordance with Aerospatiale Service Bulletin ATR42-32-0018, Revision 2, dated November 15, 1988, and Loral Service Bulletin ATR42-32-40-8. Perform torqueing of the main gear axle nut, in accordance with Loral Service Bulletin ATR42-32-40-7.

B. Alternate means of compliance or adjustment of the compliance time, which provides an acceptable level of safety, may be used when approved by the Manager, Standardization Branch, ANM-113, FAA, Northwest Mountain Region.

Note.—The request should be forwarded through an FAA Principal Maintenance Inspector (PMI), who may add any comments and then send it to the Manager, Standardization Branch, ANM-113.

C. Special flight permits may be issued in accordance with FAR 21.197 and 21.199 to operate airplanes to a base for the accomplishment of inspections and/or modifications required by this AD.

All persons affected by this directive who have not already received the appropriate service documents from the manufacturer may obtain copies upon request to Aerospatiale, 316 Route de Bayonne, 31060 Toulouse, Cedex 03, France. These documents may be examined at the FAA, Northwest Mountain Region, 17900 Pacific Highway South, Seattle, Washington, or at the Seattle Aircraft Certification Office, 9010 East Marginal Way South, Seattle, Washington.

Issued in Seattle, Washington, on January 18, 1989.

Steven B. Wallace,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 89-1994 Filed 1-27-89; 8:45 am]

BILLING CODE 4910-13-M

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14 CFR Part 39

[Docket No. 88-NM-208-AD]

Airworthiness Directives; Aerospatiale Model ATR-42-300 Series Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of Proposed Rulemaking (NPRM).

SUMMARY: This notice proposes a new airworthiness directive (AD), applicable to Aerospatiale Model ATR–42–300 series airplanes, which would require repetitive inspections of the engine fuel supply single- and double-shrouded hoses for leakage of fuel, and repair, if necessary. This proposal is prompted by a report of fuel leakage from the fuel hose located between the fuel heater and the nacelle intermediate frame. This condition, if not corrected, could lead to a fuel fire in the nacelle.

DATES: Comments must be received no later than March 27, 1989.

ADDRESSES: Send comments on the proposal in duplicate to the Federal Aviation Administration, Northwest Mountain Region, Transport Airplane Directorate, ANM–103, Attention: Airworthiness Rules Docket No. 88–NM–208–AD, 17900 Pacific Highway South, C–68966, Seattle, Washington 98168. The applicable service information may be obtained from Aerospatiale, 316 Route de Bayonne, 31060 Toulouse, Cedex 03, France. This information may be examined at the FAA, Northwest Mountain Region, 17900 Pacific Highway South, Seattle, Washington, or the Seattle Aircraft Certification Office, 9010 East Marginal Way South, Seattle, Washington.

FOR FURTHER INFORMATION CONTACT: Mr. Robert McCracken, Standardization Branch, ANM–113; telephone (206) 431–1979. Mailing address: FAA, Northwest Mountain Region, 17900 Pacific Highway South, C–68966, Seattle, Washington 98168.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Communications should identify the regulatory docket number and be submitted in duplicate to the address specified above. All communications received on or before the closing date for comments specified above will be considered by the Administrator before taking action on the proposed rule. The proposals contained in this Notice may be changed in light of the comments received. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report summarizing each FAA/public contact concerned with the substance of this proposal will be filed in the Rules Docket.

Availability of NPRM

Any person may obtain a copy of this Notice of Proposed Rulemaking (NPRM) by submitting a request to the FAA, Northwest Mountain Region, Transport Airplane Directorate, ANM–103, Attention: Airworthiness Rules Docket No. 88–NM–208–AD, 17900 Pacific Highway South, C–68966, Seattle, Washington 98168.

Discussion

The manufacturer has reported one incident of fuel leakage from the fuel hose located between the fuel heater and the nacelle intermediate frame on an Aerospatiale Model ATR–42 series airplane. It is suspected that improper torqueing of the fuel line caused a break in the fuel line. The FAA has determined that the existing design of this fuel line assembly makes improper torqueing likely This condition, if not corrected, could lead to a fuel fire in the nacelle.

Aerospatiale has issued Service Bulletin ATR42–28–0012, dated September 9, 1988, which describes procedures for repetitive inspections for fuel leakage in the engine fuel supply single- and double-shrouded hoses.

Aerospatiale has also issued Service Bulletin ATR42–28–0013, Revision 1, dated December 12, 1988, which describes procedures for modification of the engine fuel supply hoses. Installation of this modification would terminate the need for the repetitive visual inspection described above.

The Direction Générale de L'Aviation Civile (DGAC), which is the airworthiness authority of France, has not classified these service bulletins as mandatory; however, the FAA has determined that, since this condition involves a potential fire hazard, all U.S.-registered Model ATR–42 series airplanes must be repetitively inspected until the modification is accomplished.

This airplane model is manufactured in France and type certificated in the United States under the provisions of Section 21.29 of the Federal Aviation Regulations and the applicable bilateral airworthiness agreement.

Since this condition is likely to exist or develop on airplanes of this model registered in the United States, an AD is proposed that would require repetitive inspections of the engine fuel supply hoses, and modification, if necessary, in accordance with the previously mentioned service bulletin.

It is estimated that 38 airplanes of U.S. registry would be affected by this AD, that it would take approximately 3 manhours per airplane to accomplish the required actions, and that the average labor cost would be $40 per manhour. Based on these figures, the total cost impact of this AD to U.S. operators is estimated to be $4,560, for the initial inspection. Optional replacement of the fuel line is estimated to cost $1,120 per airplane for parts.

The regulations proposed herein would not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this proposal would not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, the FAA has determined that this document (1) involves a proposed regulation which is not major under Executive Order 12291 and (2) is not a significant rule pursuant to the Department of Transportation Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); and it is further certified under the criteria of the Regulatory Flexibility Act that this proposed rule, if promulgated, will not have a significant economic impact, positive or negative, on a substantial number of small entities because few, if any, Model ATR–42–300 series airplanes are operated by small entities. A copy of a draft regulatory evaluation prepared for this action is contained in the regulatory docket.

List of Subjects in 14 CFR Part 39

Aviation safety, Aircraft.

The Proposed Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration proposes to amend § 39.13 of Part 39 of the Federal Aviation Regulations as follows:

PART 39—[AMENDED]

1. The authority citation for Part 39 continues to read as follows:

Authority: 49 U.S.C. 1354(a), 1421 and 1423; 49 U.S.C. 106(g) (Revised Pub. L. 97–449, January 12, 1983); and 14 CFR 11.89.

§ 39.13 [Amended]

2. By adding the following new airworthiness directive:

Aerospatiale: Applies to Model ATR42–300 series airplanes, up to and including Serial Number 120, which have not been modified in accordance with Service Bulletin ATR42–28–0013, Revision 1, dated December 12, 1988, certificated in any category. Compliance is required as indicated, unless previously accomplished.

To prevent a fuel fire in the nacelle, accomplish the following:

A. Within 300 flight hours after the effective date of this AD and thereafter at intervals not to exceed 300 flight hours, and at each engine removal/installation, inspect the engine fuel supply hoses for fuel leakage in accordance with Aerospatiale Service Bulletin ATR42-28-0012, dated September 9, 1988. If leakage is found, before further flight, repair or replace the leaking fuel line, in accordance with the service bulletin.

B. Replacement of the engine fuel supply hoses, in accordance with Aerospatiale Service Bulletin ATR42-28-0013, dated September 9, 1988, constitutes terminating action for the repetitive inspections required by paragraph A., above.

C. An alternate means of compliance or adjustment of the compliance time, which provides an acceptable level of safety, may be used when approved by the Manager, Standardization Branch, ANM-113, FAA, Northwest Mountain Region.

Note.—The request should be forwarded through an FAA Principal Maintenance Inspector (PMI), who may add any comments and then send it to the Manager, Standardization Branch, ANM-113.

D. Special flight permits may be issued in accordance with FAR 21.197 and 21.199 to operate airplanes to a base for the accomplishment of inspections and/or modification required by this AD.

All persons affected by this directive who have not already received the appropriate service documents from the manufacturer may obtain copies upon request to Aerospatiale, 316 Route de Bayonne, 31060 Toulouse, Cedex 03, France. These documents may be examined at the FAA, Northwest Mountain Region, 17900 Pacific Highway South, Seattle, Washington, or at the Seattle Aircraft Certification Office, 9010 East Marginal Way South, Seattle, Washington.

Issued in Seattle, Washington, on January 18, 1989.

Steven B. Wallace,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 89-1996 Filed 1-27-89; 8:45 am]

BILLING CODE 4910-13-M

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14 CFR Part 75

[Airspace Docket No. 88-ACE-12]

Proposed Alteration of Jet Route J-148; Nebraska

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking.

SUMMARY: This notice proposes to change the description of Jet Route J-148 located in the vicinity of O'Neill, NE. The J-148 proposal would extent that route direct to Mason City, IA. Pilots normally request that routing and are radar vectored from O'Neill to Mason City. This action would provide a charted route between these points thereby reducing controller workload.

DATES: Comments must be received on or before March 13, 1989.

ADDRESSES: Send comments on the proposal in triplicate to: Director, FAA, Central Region, Attention: Manager, Air Traffic Division, Docket No. 88-ACE-12, Federal Aviation Administration, 601 East 12th Street, Federal Building, Kansas City, MO 64106.

The official docket may be examined in the Rules Docket, weekdays, except Federal holidays, between 8:30 a.m. and 5:00 p.m. The FAA Rules Docket is located in the Office of the Chief Counsel, Room 916, 800 Independence Avenue, SW., Washington, DC.

An informal docket may also be examined during normal business hours at the office of the Regional Air Traffic Division.

FOR FURTHER INFORMATION CONTACT: Lewis W. Still, Airspace Branch (ATO-240), Airspace-Rules and Aeronautical Information Division, Air Traffic Operations Service, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, DC 20591; telephone: (202) 267-9250.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested parties are invited to participate in this proposed rulemaking by submitting such written data, views, or arguments as they may desire. Comments that provide the factual basis supporting the views and suggestions presented are particularly helpful in developing reasoned regulatory decisions on the proposal. Comments are specifically invited on the overall regulatory, aeronautical, economic, environmental, and energy aspects of the proposal. Communications should identify the airspace docket and be submitted in triplicate to the address listed above. Commenters wishing the FAA to acknowledge receipt of their comments on this notice must submit with those comments a self-addresed, stamped postcard on which the following statement is made: "Comments to Airspace Docket No. 88-ACE-12." The postcard will be date/time stamped and returned to the commenter. All communications received before the specified closing date for comments will be considered before taking action on the proposed rule. The proposal contained in this notice may be changed in the light of comments received. All comments submitted will be available for examination in the Rules Docket both before and after the closing date for comments. A report summarizing each substantive public contact with FAA personnel concerned with this rulemaking will be filed in the docket.

Availability of NPRM's

Any person may obtain a copy of this Notice of Proposed Rulemaking (NPRM) by submitting a request to the Federal Aviation Administration, Office of Public Affairs, Attention: Public Inquiry Center, APA-230, 800 Independence Avenue, SW., Washington, DC 20591, or by calling (202) 267-3484. Communications must identify the notice number of this NPRM. Persons interested in being placed on a mailing list for future NPRM's should also request a copy of Advisory Circular No. 11-2 which describes the application procedure.

The Proposal

The FAA is considering an amendment to Part 75 of the Federal Aviation Regulations (14 CFR Part 75) to alter the description of Jet Route J-148, located in the vicinity of O'Neill, NE, by extending that route from O'Neill to Mason City, IA. This action would reduce controller workload. Section 75.100 of Part 75 of the Federal Aviation Regulations was republished in Handbook, 7400.6D dated January 4, 1988.

The FAA has determined that this proposed regulation only involves an established body of technical regulations for which frequent and routing amendments are necessary to keep them operationally current. It, therefore—(1) is not a "major role" under Executive Order 12291; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); and (3) does not warrant preparation of a regulatory evaluation as the anticipated impact is so minimal. Since this is a routine matter that will only affect air traffic procedures and air navigation, it is certified that this rule, when promulgated, will not have a significant economic impact on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 75

Aviation safety, Jet routes.

The Proposed Amendment

Accordingly, pursuant to the authority delegated to me, the Federal Aviation Administration proposes to amend Part 75 of the Federal Aviation Regulations (14 CFR Part 75) as follows:

PART 75—ESTABLISHMENT OF JET ROUTES AND AREA HIGH ROUTES

1. The authority citation for Part 75 continues to read as follows:

Authority: 49 U.S.C. 1348(a), 1354(a), 1510; Executive Order 10854; 49 U.S.C. 106(g) (Revised Pub. L. 97-449, January 12, 1983); 14 CFR 11.69.

§ 75.100 [Amended]

2. Section 75.100 is amended as follows:

J-148 [Amended]

By removing the words "to O'Neill, NE." and substituting the words "O'Neill, NE; to Mason City, IA."

Issued in Washington, DC, on January 17, 1989.

Harold W. Becker,

Manager, Airspace-Rules and Aeronautical Information Division.

[FR Doc. 89-1993 Filed 1-27-89; 8:45 am]

BILLING CODE 4910-13-M

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Social Security Administration

20 CFR Part 416

[Reg. No. 16]

Supplemental Security Income for the Aged, Blind, and Disabled; Residence and Citizenship

AGENCY: Social Security Administration, HHS.

ACTION: Proposed rule.

SUMMARY: We are proposing rules regarding the treatment of aliens legalized under Pub. L. 99-603, the Immigration Reform and Control Act of 1986, for Supplemental Security Income (SSI) purposes. These proposed rules provide that aliens granted lawful temporary resident status under section 245A of the Immigration and Nationality Act (INA), as added by section 201 of Pub. L. 99-603, are considered to be permanently residing in the United States under color of law. The proposed rules also set out the proof to be provided by certain seasonal agricultural workers who are granted lawful temporary resident status under section 210 of the INA, as added by section 302 of Pub. L. 99-603, to establish that they are lawfully admitted to the United States for permanent residence for SSI purposes.

DATE: To be sure that your comments are considered, we must receive them no later than March 31, 1989.

ADDRESSES: Comments should be submitted in writing to the Commissioner of Social Security, Department of Health and Human Services, P.O. Box 1585, Baltimore, MD 21203, or delivered to 3-A-3 Operations Building, 6401 Security Boulevard, Baltimore, MD 21235, between 8:00 a.m. and 4:30 p.m. on regular business days. Comments received may be inspected during these same hours by making arrangements with the contact person shown below.

FOR FURTHER INFORMATION CONTACT: Dave Smith, Office of Regulations, Social Security Administration, 6401 Security Boulevard, Baltimore, MD 21235, Telephone 301-965-1758.

SUPPLEMENTARY INFORMATION: Section 1614(a)(1)(B) of the Social Security Act provides that to be eligible for SSI benefits an individual must be a citizen or an alien either lawfully admitted for permanent residence or permanently residing in the United States under color of law.

Section 416.1615 of the current regulations sets out the proof an alien must provide to show that he or she is lawfully admitted to the United States for permanent residence. Section 416.1618 of regulations, recently published at 52 FR 21939 (June 10, 1987), provides that an alien is permanently residing in the United States under color of law if he or she is in the United States with the knowledge and permission of the Immigration and Naturalization Service (INS) and INS does not contemplate enforcing the alien's departure.

Section 201 of Pub. L. 9-603 added section 245A to the Immigration and Nationality Act (INA), which provides that beginning not later than May 5, 1987, aliens who have continuously resided in the United States illegally since before January 1, 1982, can apply for and may be granted lawful temporary resident status. We propose to amend § 416.1618(b) to provide that aliens granted such lawful temporary resident status under section 245A are to be considered aliens permanently residing in the United States under color of law. The proposed rule also sets out the documentation which the alien can provide as proof that he or she has been granted lawful temporary resident status.

Public Law 99-603 provides that aliens granted lawful temporary resident status generally are barred from participation in Federal programs of financial assistance for 5 years from the date the status was granted. SSI is specifically exempted from the definition of financial assistance for purposes of this prohibition. The legislative history is clear that Congress intended aliens legalized under Pub. L. 99-603 to be able to establish eligibility for SSI benefits (H.R. Rep. No. 682, Part I, 99th Cong., 2d Sess. 74 (1986)).

Section 210 of the INA, as added by section 302 of Pub. L. 99-603, provides that certain seasonal agricultural workers can apply for and be granted lawful temporary resident status. Section 210 specifically provides that these aliens are to be considered as lawfully admitted to the United States for permanent residence for purposes other than immigration. Therefore, we propose to amend § 416.1615(a)(4) to set out the proof which these aliens must provide to establish that they are lawfully admitted to the United States for permanent residence for SSI purposes.

Section 416.1615(a)(4) of the above-cited regulations published on June 10, 1987, contained an incorrect reference to INS documentation procedures for purposes of section 245 of the INA. Section 416.1615(a)(1) of these proposed rules corrects that documentation requirement by describing the forms of Alien Registration Receipt Cards necessary to show lawful permanent resident status.

Regulatory Procedures

Executive Order No. 12291

The proposed rules reflect several sections of Pub. L. 99-603 pertaining to certain aliens granted temporary resident status in the United States. Although the changes being announced in this document may result in costs that exceed the $100 million threshold established under Executive Order 12291 for performing a regulatory impact analysis, the costs result from the legislative provisions, not from the regulation. Therefore, a regulatory impact analysis is not required.

Paperwork Reduction Act of 1980

These proposed regulations impose no new reporting or recordkeeping requirements subject to Office of Management and Budget clearance.

Regulatory Flexibility Act

We certify that these proposed regulations, if promulgated, will not have a significant economic impact on a substantial number of small entities because they affect only individuals and States. Therefore, a regulatory flexibility analysis as provided in Pub. L. 96-354, the Regulatory Flexibility Act, is not required.

(Catalog of Federal Domestic Assistance Program No. 13.807, Supplemental Security Program)

List of Subjects in 20 CFR Part 416

Administration practice and procedure, Aged, Blind, Disability benefits, Public assistance programs, Supplemental Security Income.

Dated: August 24, 1988.

Dorcas R. Hardy,

Commissioner of Social Security.

Approved: October 3, 1988.

Otis R. Bowen,

Secretary of Health and Human Services.

Part 416 of Chapter III of title 20 of the Code of Federal Regulations is amended as follows:

PART 416—[AMENDED]

1. The authority citation for Subpart P of Part 416 continues to read as follows:

Authority: Secs. 1102, 1614(a)(1)(B) and (e), and 1631 of the Social Security Act; 42 U.S.C. 1302, 1382c(a)(1)(B) and (e), and 1383; sec. 502 of Pub. L. 94-241, 90 Stat. 268.

2. In § 416.1615, paragraph (a) is amended by revising (a)(1) and (4) to read as follows:

§ 416.1615 How to prove you are lawfully admitted for permanent residence in the United States.

(a) * * *

(1) An Alien Registration Receipt Card (Immigration and Naturalization (INS) Form I-151 or I-551, including temporary I-551's which are stamped in a passport or on Form I-94 (Arrival-Departure Record) for aliens admitted under sections 204, 206, or 245 of the Immigration and Nationality Act);

* * * * *

(4) INS Form I-668 which shows that you have been granted lawful temporary resident status under section 210 of the Immigration and Nationality Act.

* * * * *

3. In § 416.1618, paragraph (b) is amended by revising the introductory text, by revising (b)(15), by redesignating (b)(16) as (b)(17), and by adding a new (b)(16), and paragraph (d)(2) and the introductory text of paragraph (d)(3) are revised to read as follows:

§ 416.1618 When you are considered permanently residing in the United States under color of law.

* * * * *

(b) *Categories of aliens who are permanently residing in the United States under color of law.* Aliens who are permanently residing in the United States under color of law are listed below. None of the categories includes applicants for an Immigration and Naturalization status other than those applicants listed in paragraph (b)(6) of this section or those covered under paragraph (b)(17) of this section. None of the categories allows SSI eligibility for nonimmigrants, for example, students or visitors. Also listed are the most common documents that the Immigration and Naturalization Service provides to aliens in these categories.

* * * * *

(15) Aliens whose deportation has been withheld pursuant to section 243(h) of the Immigration and Nationality Act (8 U.S.C. 1253(h)). We ask for an order from an immigration judge showing that deportation has been withheld;

(16) Aliens granted lawful temporary resident status pursuant to section 245A of the Immigration and Nationality Act (8 U.S.C. 1255a). We ask for INS form I-688 showing that status; or

* * * * *

(d) * * *

* * * * *

(2) If you give us any of the documents listed in paragraphs (b)(1), (2), (3), (4), (8), (9), (11), (12), (13), (15), or (16) of this section, we will pay you benefits if you meet all other eligibility requirements. We will contact the Immigration and Naturalization Service to verify that the document you give us is currently valid.

(3) If you give us any of the documents listed in paragraphs (b)(5), (6), (7), (10), or (14) of this section, or documents that indicate that you meet category (17), or any other information to prove you are permanently residing in the United States under color or law, we will contact the Immigration and Naturalization Service to verify that the document or other information is currently valid. We must also get information from the Immigration and Naturalization Service as to whether that agency contemplates enforcing your departure. We will apply the following rules:

* * * * *

[FR Doc. 89-2030 Filed 1-27-89; 8:45 am]

BILLING CODE 4190-11-M

DEPARTMENT OF THE INTERIOR

Office of Surface Mining Reclamation and Enforcement

30 CFR Part 946

Virginia Regulatory Program; Remining

AGENCY: Office of Surface Mining Reclamation and Enforcement (OSMRE), Interior.

ACTION: Proposed rule; notice to suspend final decision on proposed amendments.

SUMMARY: OSMRE is suspending decisionmaking action and publication of final rules to amend the Virginia regulatory program. The State has requested more time to make revisions and gather additional supporting information to its regulations for remining. When the new supporting documentation is received, another comment period will be announced to address that material together with the existing proposed amendments.

DATES: Final action for the proposed amendments listed in this notice is suspended until further notice.

FOR FURTHER INFORMATION CONTACT: Mr. W. Russell Campbell, Acting Director, Big Stone Gap Field Office, Office of Surface Mining Reclamation and Enforcement, P.O. Box 626, Room 220, Powell Valley Square Shopping Center, Route 23, Big Stone Gap, Virginia 24219; Telephone: (703) 523-4303.

SUPPLEMENTARY INFORMATION: Virginia has submitted amendments to its permanent regulatory program under the Surface Mining Control and Reclamation Act of 1977 (SMCRA) as indicated in the list set forth below. Virginia is now preparing revisions and additional information having intricately related parts to the proposed amendments on that list. Therefore, OSMRE is suspending action on these amendments beyond the time limit considered to be within common administrative procedures. This notice is intended to avoid confusion about the status of comments already received on the proposed amendments.

The proposed amendments, and revisions and additional information to be received are all intended to establish alternate standards for permitting, bonding, and reclamation on surface coal mining and reclamation operations which affect remine areas established before the effective date of SMCRA. Proposed amendments and dates affected by the suspension are indicated below. Comments already received on the proposed amendments will be considered in future rulemaking; however, OSMRE encourages all interested parties to comment on the entire package.

Comments on the following proposed amendments will be considered together with related revisions and new information:

Rules	Federal Register citation	Date published
Proposed amendments to the Virginia Permanent Regulatory Program.	53 FR 5002	Feb. 13, 1988.

Rules	Federal Register citation	Date published
Proposed amendments to the Virginia Permanent Regulatory Program.	53 FR 30450	Aug. 12, 1988.

Further notice to solicit comments on revisions and additional information to the Virginia permanent regulatory program will be provided at a later date.

List of Subjects in 30 CFR Part 946

Intergovernmental relations, Surface Mining, Surface Mining Reclamation and Enforcement Office, Underground mining.

Date: January 18, 1989.

Carl C. Close,

Assistant Director, Eastern Field Operations.

[FR Doc. 89-2085 Filed 1-27-89; 8:45 am]

BILLING CODE 4310-05-M

DEPARTMENT OF DEFENSE

Office of the Secretary

32 CFR Part 47

[DoD Directive 1000.20]

Active Duty Service Determinations for Civilian or Contractural Groups

AGENCY: Department of Defense.

ACTION: Proposed rule.

SUMMARY: 32 CFR Part 47 was last published on August 26, 1983 (48 FR 38816). Formerly titled "Demonstrations of Active Military Service and Discharge: Civilian or Contractual Personnel," it implemented Pub. L. 95-202 and established DoD policy and procedures to determine whether the civilian employment or contractual services of a civilian or contractual group shall be considered active military service for the purpose of laws administered by the Veterans Administration. This document clarifies the factors used by the DoD Civilian/Military Service Review Board and the Secretary of the Air Force (DoD Executive Agent for this program) in making administrative determinations of active duty service for the purpose of VA benefits under Pub. L. 95-202. Changes and clarifications stem from a Federal Court determination that the Department of Defense had failed to clarify factors and criteria in their implementing directive concerning Pub. L. 95-202.

DATE: Comments must be received by March 1, 1989.

ADDRESSES: Office of the Assistant Secretary of Defense (Force Management and Personnel), the Pentagon, Room 3E764, Washington, DC 20301-4000.

FOR FURTHER INFORMATION CONTACT: Colonel R.E. Nitzche, telephone 202-697-7197.

SUPPLEMENTARY INFORMATION:

List of Subjects in 32 CFR Part 47

Military personnel.

Accordingly, 32 CFR Part 47 is proposed to be revised as follows:

PART 47—ACTIVE DUTY SERVICE DETERMINATIONS FOR CIVILIAN OR CONTRACTURAL GROUPS

Sec.

47.1 Purpose.
47.2 Applicability.
47.3 Definitions.
47.4 Responsibilities.
47.5 Policy.
47.6 DoD Civilian Military Service Review Board and Advisory Panel.
47.7 Application Procedures.
Appendix—Instructions for Submitting Group Applications Under Public Law 95-202.

Authority: 38 U.S.C. 106 note.

§ 47.1 Purpose.

This part implements section 401, Pub. L. 95-202. It directs the Secretary of the Air Force to determine if an establish group of civilian employees or contract workers provided service to the U.S. Armed Forces in a manner considered "active duty." It establishes the DoD Civilian/Military Service Review Board and Advisory Panel, assigns responsibilities, develops policy, prescribes application procedures for groups and individuals, and clarifies the factors used to determine of active duty service.

§ 47.2 Applicability.

This part applies to the Office of the Secretary of Defense, the Secretaries of the Military Departments, and by agreement with the Secretary of Transportation, the Commandant of the U.S. Coast Guard. It also applies to any group application considered under Pub. L. 95-202 after the effective date of this directive and to any individual who applies for discharge documents as a member of a group recognized by the Secretary of the Air Force.

§ 47.3 Definitions.

Armed Conflict. A prolonged period of sustained combat involving members of the U.S. Armed Forces against a foreign belligerent. The term connotes more than a military engagement of limited duration or for limited objectives and involves a significant use of military and civilian forces. Examples of armed conflict are World Wars I and II and the Korean and Vietnam Conflicts. Examples of military actions that are not armed conflicts are the incursion into Lebanon in 1958 and the peacekeeping force there in 1983 and 1984, the incursions into the Dominican Republic in 1965 and Libya in 1986, and the intervention into Grenada in 1983.

Civilian or Contractual Group. An organization similarly situated to the Women's Air Forces Service Pilots (a group of federal civilian employees attached to the U.S. Army Force in World War II). Those organization members rendered service to the U.S. Armed Forces of the United States during a period of armed conflict in a capacity, which was then considered civilian employment with the Armed Forces or the result of a contract with the U.S. Government, to provide direct support to the Armed Forces.

Recognized Group. A group whose service the Secretary of the Air Force has administratively has determined to have been "active duty for the purposes of all laws administered by the Veterans Administrations (VA);" i.e., VA benefits under 38 U.S.C. 101.

Similarly Situated: A civilian or contractual group is "similarly situated" to the Women's Air Forces Service Pilots, when it existed as an identifiable group at the time the service was being rendered to the U.S. Armed Forces during a period of armed conflict. Persons who individually provided support through civilian employment or contract but who were not members of an identifiable group at the time the services were rendered are not "similarly situated" to the Women's Air Forces Service Pilots of World War II.

§ 47.4 Responsibilities.

(a) *The Secretary of the Air Force.* As the designated Executive Agent of the Secretary of Defense for the administration of section 401, Pub. L. 95-202, the Secretary of the Air Force shall:

(1) Establish the DoD Civilian/Military Service Review Board and the Advisory Panel.

(2) Appoint as board president a member, or employee, of the Air Force in grade O-6 and/or GM-15 or higher

(3) Request the Secretary of Transportation to appoint an additional voting member from the U.S. Coast Guard, when the board is considering the application of a group claiming active Coast Guard service.

(4) Provide a recorder and assistant to maintain the records of the board and administer the functions of this part.

(5) Provide non-voting legal advisors and historians.

(6) Publish notices of group applications and other Pub. L. 95–202 announcements in the Federal Register.

(7) Consider the rationale and recommendations of the DoD Civilian/Military Service Review Board.

(8) Determine whether the service rendered by a civilian or contractual group shall be considered active duty service to the U.S. Armed Forces for all laws administered by the Veterans Administration.

(9) Notify the following persons in writing, when a group determination is made (if the Secretary disagrees with the rationale or recommendations of the board, the Secretary shall provide the decision and reasons for it in writing to these persons):

(i) The applicant(s) for the group.

(ii) The Administrator of Veterans Affairs.

(iii) The Secretaries of the Army and Navy.

(iv) The Assistant Secretary of Defense (Force Management and Personnel (FM&P)).

(v) The Secretary of Transportation (when a group claims active Coast Guard service).

(b) *The Assistant Secretary of Defense (Force Management and Personnel (ASD(FM&P))* shall:

(1) Appoint a primary and an alternate member in the grade of 0–6 and/or GM–15 to the DoD Civilian/Military Service Review Board.

(2) Exercise oversight over the Military Departments and the U.S. Coast Guard for compliance with the provisions of this part and in the issuance of discharge documents and casualty reports to members of recognized groups.

(c) *The Secretaries of the Army, Navy, and Air Force and the Commandant of the Coast Guard* shall:

(1) Appoint a primary and an alternate member in the grades of 0–6 and/or GM–15 from their respective Military services to the board.

(2) Process applications for discharge documents from individuals claiming membership in a recognized group in accordance with applicable laws, directives, the Secretarial rationale and instrument effecting a group determination, and any other instruction of the board.

(3) Determine whether the applicant was a member of a recognized group after considering the individual's evidence of membership, and verifying the Military service, against available Government records.

(4) Issue a DD Form 214, "Certificate of Release or Discharge from Active Duty," and a DD Form 256, "Honorable Discharge Certificate," or a DD Form 257, "General Discharge Certificate," as appropriate, consistent with 32 CFR Parts 45 and 41, and the implementing documents of the appropriate statutes of the Military Department concerned or the Department of Transportation, and instructions of the DoD Civilian/Military Service Review Board.

(5) Issue a DD Form 1300, "Report of Casualty," or equivalent document in accordance with DoD Instruction 1300.9 [1] if a verified member was killed during the period of active duty service.

(6) Ensure that each DD Form 214, "Certificate of Release or Discharge from Active Duty," and each DD Form 1300, "Report of Casualty," have the following statement entered in the "Remarks" section: "This document, issued under Pub. L. 95–202 (38 U.S.C. 106 Note), administratively establishes active duty service for the purposes of Veterans Administration benefits."

(7) Determine the equivalent military pay grade, when required by the Veterans Administration. For the purpose of Veterans Administration benefits, a pay grade is needed only in cases when an individual was killed, or received service-connected injuries or disease, during the recognized period of active duty service. A DD Form 1300, or equivalent, shall be issued with the equivalent pay grade annotated for a member who died during the recognized period of service. A DD Form 214 shall not include pay grade, unless the Veterans Administration requests that a grade determination shall be made. Determinations of equivalent grade shall be based on the following criteria in order of importance:

(i) Officially recognized organizational grade or equivalent rank.

(ii) The corresponding rank for civilian pay grade.

(iii) If neither paragraph (c)(7)(i) nor (ii) of this section applies, only one of three grades may be issued: 0–1, E–4, or E–1. Selection depends on the nature of the job performed, the level of supervision exercised, and the military to which the individual was entitled.

(8) Adjudicate applicant challenges to the period of active duty service, characterization of service, or other administrative aspects of the discharge documents issued.

[1] Copies may be obtained, if needed, from the U.S. Naval Publication and Forms Center, Attn: Code 1062, 5801 Tabor Avenue, Philadelphia, PA 19120.

§ 47.5 Policy.

(a) A determination of active duty service is made on the extent to which the group was under the control of the U.S. Armed Forces in support of a military operation, or mission, during an armed conflict. The extent of control exerted over the group must be similar to that exerted over military personnel and shall be determined by, but not necessarily limited to, the following factors:

(1) *Uniqueness of Service.* Civilian service (civilian employment or contractual service) is a vital element of the war-fighting capability of the Armed Forces. Civilian service during a period of armed conflict is not necessarily equal to active Military service, even when performed in a combat zone. Service must be beyond that generally performed by civilian employees and must be occasioned by unique circumstances. For civilian service to be recognized under this Part, the following factors must be present:

(i) The group was created or organized specifically to fill a wartime need.

(ii) If the application is based on service in a combat zone, the mission of the group in a combat zone substantially must have been different from the mission of similar groups not in a combat zone.

(2) *Organizational Authority Over the Group.* The concept of military control is reinforced if the military command authority determines that the structure of the civilian organization, the location of the group, the mission and activities of the group, and the staffing requirements shall include the length of employment and pay grades of the members of the group.

(3) *Integration into the Military Organization.* Integrated civilian groups are subject to the regulations, standards, and control of the military command authority. Examples include:

(i) Exchanging of military courtesies.

(ii) Wearing of military clothing, insignia, and devices.

(iii) Assimilation of the group into the military organization structure.

(iv) Emoluments associated with military personnel; i.e., the use of commissaries and exchanges, and membership in military clubs. A group fully integrated into the military would give the impression that the members of the group were military, except that they were paid and accounted for as civilians. Integration into the military may lead to an expectation by members of the group that the service of the group imminently would be recognized as

active military service. Such integration militates in favor or recognition.

(4) *Subject to Military Discipline.* During past armed conflicts, U.S. military commanders sometimes restricted the rights or liberties of civilian members as if they were military members. Examples include:

(i) Placing members under a curfew.

(ii) Requiring members to work extended hours or unusual shifts.

(iii) Changing duty assignments and responsibilities.

(iv) Restricting proximity travel to and from the military installation.

(v) Imposing dress and grooming standards. Consequences for noncompliance might include a loss of some privilege, dismissal from the group, or trial under military law. Such military discipline militates in favor of recognition.

(5) *Subject to Military Justice.* Military members are subject to the military criminal justice system. During times of war, "persons serving with or accompanying an Armed Force in the field" are subject to the military criminal justice code. Some groups may have been treated as if they were military and subjected to court-martial jurisdiction to maintain discipline. Such treatment militates in favor of recognition.

(b) Other factors that may be considered in determining whether the service of a civilian or contractual group is equivalent to active duty service shall include:

(1) *Alliance with the Armed Forces for Protection.* A group that aligns itself with the Armed Forces and submits to military control for its own well-being is not deemed to have provided service to the Armed Forces tantamount to active duty Military Service, even though the group may have been:

(i) Armed by the U.S. military for defensive purposes.

(ii) Routed by the U.S. military to avoid the enemy.

(iii) Instructed by the U.S. military for the defense of the group when attacked by, or in danger of attack by, the enemy, or

(iv) Otherwise submitted themselves to the U.S. military for sustenance and protection.

(2) *Permitted to Resign.* The ability of members to resign at will and without penalty militates against military control. Penalty may direct and severe, such as confinement, or indirect and moderate, such as difficult and costly transportation from an overseas location.

(3) *Prohibition against Members of the Group Joining the Armed Forces.* Organizations formed to serve in a military capacity to overcome the operation of existing law or treaty militates in favor of recognition under Pub. L. 95–202. During World Wars I and II some persons could not be members of the United States Armed Forces. Women, for example, were prohibited by law from serving in the Armed Forces. Other persons were prohibited by treaty from being military members.

(4) *Benefits Already Provided Members of a Group.* Recognition of a group's service by agencies of the Federal, State, or local government does not militate in favor of recognition under this Part.

(c) *Eligibility for Consideration.* To be eligible to apply for consideration under Pub. L. 95–202 and this Part, a group must have been:

(1) Similarly situated to the Women's Air Forces Service Pilots of World War II.

(2) Rendered service to the U.S. Armed Forces in a civilian employment or contractual service capacity.

(3) Rendered that service during a period of armed conflict.

(d) *Reconsideration.* Groups previously denied a favorable Secretarial determination under the law, shall be reconsidered under this Part if the group submits evidence that is new, relevant, and substantive. Any request that the Board determines does not provide new, relevant, and substantive evidence shall be returned to the applicant with the reasons for nonacceptance.

(e) *Counsel Representation.* Neither the Department of Defense nor the Department of Transportation shall provide counsel representation or defray the cost of such on any matters covered by this part.

§ 47.6 DoD Civilian and/or Military Service Review Board and Advisory Panel.

(a) *Organization and Management.* (1) The Board shall consist of a president from the Department of the Air Force and one representative from the Office of the Secretary of Defense, the Departments of the Army, Navy, and Air Force, and the U.S. Coast Guard (when the group claims active Coast Guard service). Each member shall have one vote except that the president shall vote only to break a tie. The president and two voting members shall constitute a quorum.

(2) The advisory panel shall act as a nonvoting adjunct to the board. It shall consist of historians selected by the Secretaries of the Military Departments and, if required, by the Secretary of Transportation. The respective Military Departments and the Department of Transportation shall ensure that the advisory panel is provided with administrative and legal support.

(b) *Functions.*

(1) The board shall meet in executive session at the call of the president and shall limit its reviews to:

(i) Written submissions by an applicant on behalf of a civilian or contractual group.

(ii) Written report(s) prepared by the Advisory Panel.

(iii) Any other relevant written information available.

(iv) Factors established in this Part for determining active duty service.

(2) The board shall return to the applicant any application that does not meet the eligibility criteria established in § 47.5(c). The board only needs to state the reasons why the group is ineligible for consideration under this Part.

(3) If the board determines that an application is eligible for consideration under the provisions of § 47.5(c), the board shall provide the Secretary of the Air Force a recommendation on the active duty service determination for the group and the rationale for that recommendation that shall include, but not be limited to, a discussion of the factors listed in § 47.5.

(i) No factors shall be established that require automatic recognition. Neither the board nor the Secretary shall be bound by any quantitative methodology of weighting factors in reaching a decision.

(ii) Prior group determinations do not bind the board or the Secretary. The board and the Secretary shall fully and impartially consider each group on its own merit in relation to the factors listed in § 47.5.

§ 47.7 Application procedures.

(a) *Submitting group applications.* Applications on behalf of a civilian or contractual group shall be submitted to the Secretary of the Air Force using the instructions at the Appendix to this part.

(b) *Processing group applications.* (1) When received, the recorder shall review the application for sufficiency and either return it for more information or accept it for consideration and announce acceptance in the **Federal Register**.

(2) The recorder shall send the application to the appropriate advisory panel for historical review and analysis.

(3) When received, the recorder shall send the advisory panel's report to the applicant for comment. The applicant's comments shall be referred to the advisory panel if significant disagreement requires resolution. Additional comments from the historians also shall be referred to the applicant for comment.

(4) The DoD Civilian/Military Service

Review Board shall consider the group application as established in § 47.6.

(5) After a Secretarial decision the recorder shall notify the applicant of the decision and announce it in the **Federal Register.**

(c) *Submitting Individual Applications.* When a group is recognized, individual members may apply to the appropriate Military Department, or to the Coast Guard, for discharge documents. Submit applications on DD Form 2168, "Application for Discharge of Member or Survivor of Member of Group Certified to Have Performed Active Duty with the Armed Forces of the United States." An application on behalf of a deceased or incompetent member submitted by the next of kin must be accompanied by proof of death or incompetence.

Appendix—Instructions for Submitting Group Applications Under Public Law 95–202

In submitting a group application:

(1) Define the group to include the time period that your group provided service to the U.S. Armed Forces.

(2) Show the relationship that the group had with the U.S. Armed Forces, the manner in which members of the group were employed, and the services the members of the group provided to the U.S. Armed Forces.

(3) Address each of the factors in § 47.5 of this part.

(4) Substantiate and document the application. (The burden of proof rests with the applicant.)

Send completed group applications to: Secretary of the Air Force (SAF/MRC), DoD Civilian/Military Service Review Board, Washington, DC 20330–1000.

L.M. Bynum,

Alternate OSD Federal Register Liaison Officer, Department of Defense.

January 25, 1989.

[FR Doc. 89–2087 Filed 1–27–89; 8:45 am]

BILLING CODE 3810-01-M

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[FRL–3511–5]

Approval and Promulgation of Implementation Plans; Ohio State Implementation Plan; Extension of Comment Period

AGENCY: United States Environmental Protection Agency (USEPA).

ACTION: Notice of extension of the public comment period.

SUMMARY: USEPA is giving notice that the public comment period for a notice of proposed rulemaking published November 16, 1988 (53 FR 46094), has been extended 30 days. This notice proposed to disapprove a revision to the Ohio State Implementation Plan, which would allow the ATEC Industries, Incorporated's architectural aluminum extrusion coating line to meet the volatile organic compounds (VOC) limitation of 3.5 pounds of VOC per gallon coating, minus water, as required by Ohio Administrative Code (OAC) 3745–21–09(U)(1)(a)(iii), on a monthly volume-weighted average in lieu of the daily volume-weighted average required by OAC Rule 3745–21–09(B). This source is located in Mahoning, Ohio. USEPA is taking this action based on an extension request by a commentor.

DATE: Comments are now due on or before January 16, 1989.

FOR FURTHER INFORMATION CONTACT: Uylaine E. McMahan, Air and Radiation Branch (5AR–26), U.S. Environmental Protection Agency, Region V, 230 South Dearborn Street, Chicago, Illinois 60604, (312) 886–6031.

Date: January 13, 1989.

Valdas V. Adamkus,

Regional Administrator.

[FR Doc. 89–2024 Filed 1–27–89; 8:45 am]

BILLING CODE 6560-50-M

40 CFR Part 52

[FRL–3510–8]

Approval and Promulgation of Implementation Plans; Wisconsin State Implementation Plan; Extension of Comment Period

AGENCY: United States Environmental Protection Agency (USEPA).

ACTION: Notice of extension of the public comment period.

SUMMARY: USEPA is giving notice that the public comment period for a notice of proposed rulemaking published December 2, 1988 (53 FR 48654), has been extended 30 days. This notice proposed to disapprove a revision to the Wisconsin State Implementation Plan, which would allow a temporary relaxation from Wisconsin's volatile organic compound reasonably control technology regulations for a General Motors facility located in Janesville, Wisconsin. USEPA is taking this action based on an extension request by a commentor.

DATE: Comments are now due on or before January 31, 1989.

FOR FURTHER INFORMATION CONTACT: Uylaine E. McMahan, Air and Radiation Branch (5AR–26), U.S. Environmental Protection Agency, Region V, 230 South Dearborn Street, Chicago, Illinois 60604, (312) 886–6031.

Dated: January 13, 1989.

Valdas V. Adamkus,

Regional Administrator.

[FR Doc. 89–2022 Filed 1–27–89; 8:45 am]

BILLING CODE 6560-50-M

40 CFR Part 52

[FRL–3511–4]

Approval and Promulgation of Implementation Plans; Wisconsin State Implementation Plan; Extension of Comment Period

AGENCY: United States Environmental Protection Agency (USEPA).

ACTION: Notice of extension of the public comment period.

SUMMARY: USEPA is giving notice that the public comment period for a notice of proposed rulemaking published December 6, 1988 (53 FR 49209), has been extended 30 days. This notice proposed to disapprove a revision to the Wisconsin State Implementation Plan, which would allow for a site-specific reasonably available control technology determination for volatile organic compounds emissions from two miscellaneous metal parts and products spray coating lines at General Electric Company, Medical Systems. This source is located in Milwaukee, Wisconsin. USEPA is taking this action based on an extension request by a commentor.

DATE: Comments are now due on or before February 6, 1989.

FOR FURTHER INFORMATION PLEASE CONTACT: Uylaine E. McMahan, Air and Radiation Branch (5AR–26), U.S. Environmental Protection Agency, Region V, 230 South Dearborn Street, Chicago, Illinois 60604, (312) 886–6031.

Date: January 13, 1989.

Valdas V. Adamkus,

Regional Administrator.

[FR Doc. 89–2023 Filed 1–27–89; 8:45 am]

BILLING CODE 6560-50-M

40 CFR Part 300

[FRL-3509-1]

Clarification of the Intent To Delete the New Castle Steel Site, New Castle, DE, From the National Priorities List

AGENCY: Environmental Protection Agency (EPA).

ACTION: Clarification.

SUMMARY: Due to the possible confusion created by the differing dates, and in order to ensure a full period of thirty days for comment, EPA announces that an additional two weeks of public comment, beginning from the date of this clarification notice, will be allowed on EPA's "Notice of Intent to Delete the New Castle Steel Site from the National Priorities List", 53 FR 36869, September 22, 1988. Comments should be provided to the address for the Regional Docket specified below.

DATE: Comments concerning the site may be submitted for two weeks from the date of this clarification notice.

ADDRESSES: Comments may be mailed to the Regional Docket. Comprehensive information on the site is maintained and available through the EPA Regional Docket Clerk.

The Regional Docket is located at the U.S. EPA Region III office and is available for viewing by appointment only from 9:00 a.m. to 4:00 p.m. Monday through Friday, excluding holidays. Requests for copies of the information from the Regional public docket should be directed to the EPA Region III docket office.

Addresses for the Regional and Local Docket office are:

U.S. EPA Region III, 841 Chestnut Building, Philadelphia, PA 19107
Wilmington Library, 10th & Market Streets, Wilmington, DE 19801
DNREC, 715 Grantham Lane, New Castle, DE 19720.

FOR FURTHER INFORMATION CONTACT: Barbara Brown at (215) 597-8593.

For background information on the site contact: Randy Sturgeon, DELMARVA/DC/WV CERCLA, Remedial Enforcement Section (3HW16), U.S. Environmental Protection Agency, Region III, 841 Chestnut Building, Philadelphia, PA 19107, (215) 597-0978.

SUPPLEMENTARY INFORMATION: The Environmental Protection Agency (EPA) Region III issues this clarification notice on the public comment period provided for the New Castle Steel Site in its "Notice of Intent to Delete the New Castle Steel Site from the National Priorities List", 53 FR 36869, September 22, 1988. EPA's "Notice of Intent" of September 22, 1988, stated that a local notice had been published announcing a thirty (30) day public comment period on the deletion package, starting on October 6, 1988, and concluding on October 24, 1988. EPA's local notice, published in local papers, appeared on September 22, 1988, and announced a period for public comment ending on October 21, 1988.

Date: January 11, 1989.

Stanley L. Laskowski,

Acting Regional Administrator.

[FR Doc. 89-1791 Filed 1-27-89; 8:45 am]

BILLING CODE 6560-50-M

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Health Care Financing Administration

42 CFR Parts 400 and 405

[BERC-432-P]

Medicare Program; Criteria and Procedures for Making Medical Services Coverage Decisions That Relate to Health Care Technology

AGENCY: Health Care Financing Administration (HCFA), HHS.

ACTION: Proposed rule.

SUMMARY: This proposed rule would establish in regulations generally applicable criteria and procedures for HCFA decisions as to whether and under what circumstances specific health care technologies could be considered "reasonable" and "necessary" and therefore covered under Medicare. It would provide for more openness and streamlining of the decisionmaking process through increased public participation and expedited review of new breakthrough technologies. It expands upon the description of the process used in reaching coverage decisions that was published in the **Federal Register** on April 29, 1987 (52 FR 15560).

DATE: Comments will be considered if we receive them at the appropriate address, as provided below, no later than 5:00 p.m. on March 31, 1989.

ADDRESS: Mail comments to the following address:

Health Care Financing Administration, Department of Health and Human Services, Attention: BERC-432-P, P.O. Box 26676, Baltimore, Maryland 21207.

If you prefer, you may deliver your comments to one of the following addresses:

Room 309-G, Hubert H. Humphrey Building, 200 Independence Ave., SW., Washington, DC, or

Room 132, East High Rise Building, 6325 Security Boulevard, Baltimore, Maryland.

In commenting, please refer to BERC-432-P. Comments received timely will be available for public inspection as they are received, generally beginning approximately three weeks after publication of a document, in Room 309-G of the Department's offices at 200 Independence Ave., SW., Washington, DC, on Monday through Friday of each week from 8:30 a.m. to 5:00 p.m. (phone 202-245-7890).

If you wish to submit comments on the information collection requirements contained in this proposed rule, you may submit comments to: Office of Information and Regulatory Affairs, Office of Management and Budget, Room 3002, New Executive Office Building, Washington, DC 20503, Attention: Desk Officer for HCFA.

FOR FURTHER INFORMATION CONTACT: Sam Della Vecchia, (301) 966-5316.

SUPPLEMENTARY INFORMATION: Under the Medicare program, the benefits available to eligible beneficiaries are called *covered* services and include those medical supplies and procedures that are referred to as "items". Medicare program funds cannot generally be used to pay for services furnished to Medicare beneficiaries that are not covered under the Social Security Act (the Act). This proposed rule deals primarily with issues related to coverage of services, rather than to payment for services; that is, with determining the services to be paid for as benefits under the Medicare program rather than the method or level of payment. The primary statutory basis for these coverage decisions appears in section 1862(a)(1)(A) of the Act, which prohibits payment under the Medicare program for any expenses incurred for services "which are not reasonable and necessary for the diagnosis or treatment of illness or injury or to improve the functioning of a malformed body member."

This proposed rule is being published to establish in regulations generally applicable criteria and procedures for determining whether a service is "reasonable" and "necessary" under the Medicare program; to set forth the coverage decisionmaking process that we propose to include in regulations; and to summarize and provide an analysis of the public comments that we received in response to the April 29, 1987 notice (52 FR 15560) that announced our current process for making coverage decisions.

That notice was published in accordance with the terms of an agreement settling a lawsuit, *Jameson* v. *Bowen*, C.A. No. CV-F-83-547-REC (E.D. Cal.). Under the settlement, we agreed to publish for public comment a description of the process we use to make Medicare coverage decisions. We invited the public to comment on the coverage process currently in use and specifically to comment on procedures allowing for public input into the coverage decisionmaking process if appropriate. The notice described the current process only, because of the limited time available for meeting the court deadline of May 1, 1987 for publication of the notice. In publishing that notice, we also solicited comments on how the current process could be improved.

These regulations are intended to clarify our coverage decisions policy and improve the method for making national coverage decisions. In addition, they are intended to assure that Federal funds are expended only for medical services that are appropriate to meet an individual's medical needs. We believe that it is important to set forth these policies and procedures in regulations since decisions on coverage can have a bearing on the availability of a medical service. Further, some groups, including the Health Industry Manufacturers Association (HIMA), have urged us to make public the process for national coverage decisions since they argue that these decisions directly affect the diffusion of new technology.

In addition, we believe it is important that beneficiaries understand fully the considerations underlying program coverage decisions. Finally, the Administrative Conference of the United States, in a December 30, 1986 **Federal Register** publication (51 FR 46987), recommended, in part, that more "openness and regularity" be introduced into the process for issuing national coverage decisions pertaining to new medical technologies and procedures.

In view of the significant considerations noted above, we propose to establish in regulations generally applicable criteria and procedures for determining coverage of specific health care technologies under the Medicare program; and to invite public comment on them. We are soliciting comments on all aspects of the Medicare coverage process including:

- The criteria for coverage decisions, including cost-effectiveness, and their application.
- The identification and selection of health care technologies for national coverage decisions.
- Methods for assuring appropriate public participation in the various phases of the technology assessment process.
- The length of time required for review.
- The relationship between determinations by Public Health Service (PHS) agencies, including the Food and Drug Administration (FDA) and the Office of Health Technology Assessment (OHTA) and Medicare coverage decisions.

We have explained in much detail our current process for making coverage decisions, as well as the changes that we propose to make to this process. To assist readers in referencing sections contained in this proposed rule, we are providing a table of contents below:

I. Medicare Coverage—General
  A. Statutory Basis
  B. Implementation of the Law
II. The Current Process for Making National Coverage Decisions
  A. Referral and Identification of Coverage Issues for National Decisions
  B. Criteria for Selection of Coverage Issues for National Decisions
  C. HCFA Analysis
    1. General
    2. Initial Consideration—Background Papers
    3. HCFA Physicians Panel
  D. PHS Assessment Process
    1. Drugs and Biologicals
    2. Devices
  E. Criteria for Making National Coverage Decisions
    1. Safety and Effectiveness
    2. Experimental or Investigational
    3. Appropriateness
  F. Publication of National Coverage Decisions
  G. Reevaluation and Reconsideration of National Coverage Decisions
III. Regulation Provisions of this Proposed Rule
  A. Reason for Codifying the Coverage Decisions Process
  B. Definitions of Commonly Used Terms
  C. Cost-effectiveness as an Additional Criterion for Medicare Coverage of Reasonable and Necessary Services
  D. Procedures for Medicare Contractors in Making Coverage Decisions
  E. HCFA Procedures for Making National Coverage Decisions
  F. Carrier Coverage Process
  G. Conforming Changes
IV. Relationship with Other Agencies
  A. Food and Drug Administration
  B. Prospective Payment Assessment Commission (ProPAC)
  C. National Institutes of Health
V. Contractor Functions and the Claims Process
  A. General
  B. Contractor Functions
  C. Criteria and Procedures for Contractor Coverage Decisions
  D. Appeals Procedures
    1. Part A
    2. Part B
VI. Analysis of and Responses to Public Comments for April 29, 1987 Notice
  A. Inconsistent Medicare Contractor Decisions
  B. Define "Reasonable", "Necessary", and "Experimental"
  C. Issue Contractor Criteria for Making Decisions
  D. Coverage Criteria
  E. Absence of Public Input and Comment in the Coverage Process
  F. Composition of HCFA Physicians Panel
  G. Time Frame for Process
  H. Improving Coordination with FDA
  I. Coverage Exclusions Deter Research
  J. Interim Payments during the Coverage Decisions Process
  K. Carrier Screens
  L. Monitoring Contractor Performance
  M. Physician Review of Adverse Decisions
  N. Equipment and Coverage for Long Term Disabilities
  O. Confidentiality of Data
VII. Proposed Uncodified Changes to the Current Coverage Decisions Process
  A. HCFA Physicians Panel
  B. Improved Coordination and Communication
VIII. Regulatory Impact Statement
IX. Information Collection Requirements
X. Responses to Comments on this Proposed Rule
List of Subjects

In addition, because of the many agencies and terms that we reference by an acronym in this proposed rule, we have listed those acronyms and their corresponding terms in alphabetical order below:

ADAMHA—Alcohol, Drug Abuse and Mental Health Administration
ALJ—Administrative Law Judge
BERC—Bureau of Eligibility, Reimbursement and Coverage, HCFA
CDC—Centers for Disease Control
CMP—Competitive Medical Plan
DME—Durable medical equipment
FDA—Food and Drug Administration
FFDCA—Federal Food, Drug, and Cosmetic Act
HCFA—Health Care Financing Administration
HHA—Home health agency
HHS—Health and Human Services, Department of
HIMA—Health Industry Manufacturers Association
HMO—Health maintenance organization

HRSA—Health Resources and Services Administration
NCI—National Cancer Institute
NIH—National Institutes of Health
OHTA—Office of Health Technology Assessment
OMAR—Office of Medical Applications of Research
OMB—Office of Management and Budget
PHS—Public Health Service
PMA—Premarket approval application
ProPAC—Prospective Payment Assessment Commission
PROs—Utilization and Quality Control Peer Review Organizations
PRRB—Provider Reimbursement Review Board
RFA—Regulatory Flexibility Act
SMI—Supplementary Medical Insurance (Part B of the Medicare Program)
SNF—Skilled nursing facility
TAG—Coverage/Payment Technical Advisory Group

I. Medicare Coverage—General

A. Statutory Basis

The Medicare program was established by Congress in 1965 with the enactment of title XVIII of the Social Security Act (the Act). The program provides payment for certain medical services for persons 65 years of age or over, disabled beneficiaries, and persons with end-stage renal disease. The program currently covers 28.8 million aged and almost three million disabled individuals.

The Medicare program consists of two separate but complementary insurance programs, a Hospital Insurance Program, known as Part A, and a Supplementary Medical Insurance program, known as Part B. Although Part A is called hospital insurance, covered benefits also include medical services furnished in skilled nursing facilities (SNFs) or by home health agencies (HHAs) and hospices. For purposes of the Medicare program, we refer to these institutional entities as "providers". These providers must be certified as qualified providers of services and must sign an agreement to participate in the program. Part B covers a wide range of medical services and supplies such as those furnished by physicians or others in connection with physicians' services, outpatient hospital services, outpatient physical therapy and occupational therapy services, and home health services. Physicians' services covered under Part B include visits to patients in the home, office, hospital, and other institutions. Part B also covers certain drugs and biologicals that cannot be self-administered, diagnostic x-ray and laboratory tests, purchase or rental of durable medical equipment, ambulance services, prosthetic devices, and certain medical supplies.

While the Medicare law provides coverage for the broad categories of benefits described above, it also places general and categorical limitations on the coverage of the services furnished by certain health care practitioners, such as dentists, chiropractors, and podiatrists, and it specifically excludes some categories of services from coverage, such as cosmetic surgery, personal comfort items, custodial care, routine physical checkups, and services that are not reasonable and necessary for diagnosis or treatment of an illness or injury. The statute also provides direction as to the manner in which payment is made for Medicare services, the rules governing eligibility for services, and the health, safety, and quality standards to be met by institutions providing services to Medicare beneficiaries.

The Medicare law does not, however, provide an all-inclusive list of specific items, services, treatments, procedures, or technologies covered by Medicare. Thus, except for the examples of durable medical equipment in section 1861(n) of the Act, and some of the medical and other health services listed in sections 1861(s) and 1862(a) of the Act, the statute does not specify medical devices, surgical procedures, or diagnostic or therapeutic services that should be either covered or excluded from coverage.

The intention of Congress, at the time the Medicare law was enacted in 1965, was that Medicare would provide health insurance to protect the elderly or disabled from the substantial costs of acute health care services, principally hospital care. The law was designed generally to cover services ordinarily furnished by hospitals, SNFs, and physicians licensed to practice medicine. Congress understood that questions as to coverage of specific services would invariably arise and would require a specific decision of coverage by those administering the program. Thus, it vested in the Secretary the authority to make those decisions. Section 1862(a)(1)(A) of the Act states: "Notwithstanding any other provisions of this title, no payment may be made under Part A or Part B for any expenses incurred for items or services which * * * are not reasonable and necessary for the diagnosis or treatment of illness or injury or to improve the functioning of a malformed body member." This is a key provision since the words "notwithstanding any other provision of this title * * *" make this an overriding exclusion that may be applicable in a given situation despite the existence of provisions that would otherwise permit coverage. Thus, while Congress provided for the coverage of services such as inpatient hospital care and physicians' services, coverage for those services is prohibited unless they are "reasonable" and "necessary".

B. Implementation of the Law

Historically, HCFA has interpreted section 1862(a)(1)(A) of the Act to exclude from Medicare coverage those medical and health care services that are not demonstrated to be safe and effective by acceptable clinical evidence. However, current regulations are general and we have not defined the terms "reasonable" and "necessary", nor have we described in regulations a process for how these terms must be applied. (See Medicare regulations at 42 CFR 405.310(k)(1).)

In practice, Medicare contractors (that is, fiscal intermediaries, carriers, health maintenance organizations (HMOs), competitive medical plans (CMPs), and Utilization and Quality Control Peer Review Organizations (PROs)) are charged with the responsibility to assure that payments are made only for services that are covered under Medicare Part A or Part B. (See section V below for a further description of contractor functions.) Therefore, they must determine whether a particular service is covered under Medicare in the course of adjudicating a Medicare claim or conducting utilization and quality review.

Our policy on the implementation of section 1862(a)(1)(A) of the Act is set forth in Part A Intermediary Letter 77–4 and Part B Intermediary Letter 77–5 (January 1977). These documents translate the statutory terms "reasonable" and "necessary" into a test as to whether the service in question is "safe" and "effective" and not "experimental"; that is, whether the service has been proven safe and effective based on authoritative evidence, or alternatively, whether the service is generally accepted in the medical community as safe and effective for the condition for which it is used. For Medicare coverage purposes, the term "experimental" is used synonymously with the term "investigational". Further guidelines for contractors administering the program are contained in the Intermediary (HCFA Pub. 13–3), Carrier (HCFA Pub. 14–3), and Utilization and Quality Control Peer Review Organization (HCFA Pub. 19) manuals. These manuals are updated periodically through the instruction issuance process and comprise the primary source of information from HCFA central office to the contractors on claims adjudication and utilization and quality review.

In addition to these general guidelines, we have issued over 200 specific national Medicare coverage decisions on individual health care technologies. The term "national coverage determination" refers to a coverage decision that HCFA makes and issues as national policy. The term "health care technology" refers to any discrete and identifiable regimen or modality used to diagnose or treat illness, prevent disease, maintain patient well-being, or facilitate the provision of health care services. These technologies range from practices that appear to be obsolete or of questionable effectiveness to new technologies, recently introduced into medical practice, still in an experimental stage, or that are new applications of established technologies. We publish national coverage decisions on health care technologies in the Medicare Coverage Issues Manual (HCFA Pub. 6), and may also publish these decisions in other HCFA program manuals or as HCFA Rulings in the **Federal Register**. National coverage decisions are binding on our contractors and must be applied.

II. The Current Process for Making National Coverage Decisions

This section expands upon the description of the *current* process we use in making national coverage decisions that was published in the **Federal Register** on April 29, 1987 (52 FR 15560).

A. Referral and Identification of Coverage Issues for National Decisions

The process for determining whether a health care technology or service is covered has been in place for many years. Over time, certain refinements and revisions have been made in that process, but the basic structure has remained the same. Decisions on coverage are made mostly by carriers, fiscal intermediaries, and PROs that contract with the Secretary to review and adjudicate claims for Medicare services. (Section V of this preamble describes the functions of Medicare contractors.) We estimate that almost 400 million individual claims were processed by our carriers and intermediaries in fiscal year 1987. Most of the individual claims processed by Medicare contractors do not raise serious questions about coverage. However, a small number of services (usually 20 to 30 per year) are the subject of a national coverage decisionmaking and technology assessment process.

Coverage issues of national significance regarding health care technologies are raised in a variety of ways. Some are raised by individual Medicare beneficiaries, physicians, equipment manufacturers, public officials, professional associations, or government entities. Other coverage issues are raised during our ongoing review of current medical literature. However, most coverage issues are brought to our attention by our program's contractors.

If a contractor cannot resolve a coverage question satisfactorily, or believes a national coverage decision may be necessary, the issue is referred to HCFA central office through a HCFA regional office. In general, the more expensive a service is or promises to become, either in an individual case or in the aggregate, or the more prone it is to raising public health and safety concerns, the more likely it is to be referred to HCFA central office. Also, the more likely a service is to be subject to overutilization or other abuse, the more likely it is that the contractor will seek our guidance on a coverage policy. A frequent source of contractor referrals is the Coverage/Payment Technical Advisory Group (TAG). The TAG, which is made up of medical directors and other officers of the carriers and intermediaries, meets every six to eight weeks with HCFA staff to discuss its experience with various coverage and payment issues, and to discuss with us the disposition of specific coverage questions, including the need for a national coverage decision when appropriate.

B. Criteria for Selection of Coverage Issues for National Decisions

When a coverage question arises regarding a health care technology, the issue is referred to the Bureau of Eligibility, Reimbursement and Coverage (BERC) within HCFA. BERC may identify a service or technology for our centralized coverage process if there are no statutory bars to coverage of the service and one or more of the following conditions is present: (1) The service represents a significant advance in medical science; (2) the service can be described as a new product (that is, a device, drug, or procedure for which there is no similar technology already covered under Medicare); (3) the service is likely to be used in more than one region of the country; (4) the service is likely to represent a significant expense to the Medicare program; (5) the service has the potential for rapid diffusion and application; (6) there is substantial disagreement among experts regarding the safety, effectiveness, or appropriateness of a service; (7) the service has been treated inconsistently by contractors and a conflict can be resolved only by a national decision; or (8) the service was "commonly accepted" by the medical profession in the past or a national decision to cover the service was made previously, but appears to have become outmoded or questions about its safety and effectiveness have been raised.

After preliminary analysis, BERC may conclude that the coverage issue does not meet any of the criteria specified above and that a national coverage decision is not appropriate or necessary for that specific health care technology. If BERC concludes that a national coverage decision is not appropriate or necessary, the individual or organization that requested a national coverage decision is informed of the basis of the conclusion. In addition, if the request for a national coverage decision was made by one of our contractors, BERC may provide information to contractors as to the opinion of other third party payors, specialty societies, or recognized medical authorities regarding the appropriateness of coverage of the health care technology in question. However, that information, in the absence of a national coverage decision is not binding on the contractors who retain the discretion to cover or not cover, taking into account the circumstances of the individual case. For example, a contractor may question whether a new surgical procedure to treat a rare medical condition should be covered. BERC may decide that a national coverage decision is not necessary since only a few patients are likely to ever need the procedure. However, as part of its analysis, it may learn that the procedure is considered experimental by other third party payors and various specialty societies. The contractor would be informed that a national coverage decision will not be made and also informed that the procedure is considered experimental by other entities. The contractor also would be informed that the information is not binding and that coverage could be provided if the contractor determines that the procedure is reasonable and necessary in a particular case.

C. HCFA Analysis

1. General

HCFA has used various methods for seeking medical and scientific advice in determining whether a health care technology is reasonable and necessary. The fundamental test has been whether the technology is safe and effective or commonly accepted by the medical community. They have included, at one time or another, the use of PHS advisory

councils, ad hoc groups of representative physicians, and various forms of consultation and liaison with national medical associations. At present, a structured process of review and assessment involves HCFA central office staff physicians, PHS representatives, a contractor medical advisory group, and the medical community.

2. Initial Consideration—Background Papers

If BERC determines that consideration should be given to issuing a national coverage decision for a specific health care technology, BERC conducts a medical literature search, meets with interested parties (proponents and opponents) as needed, determines the status of any FDA action, and prepares a background summary on the service.

The background paper stresses the information obtained from the medical literature search and the administrative aspects of the issue. Current Medicare coverage guidelines are discussed, as well as any information obtained regarding published decisions by other groups involved in technology assessment.

3. HCFA Physicians Panel

The next step in the process involves presenting the background paper to the HCFA Physicians Panel for review. This Panel, a group composed of staff physicians and other health professionals in HCFA's central office and counterparts from PHS, meets approximately once every six to eight weeks. These sessions are designed to permit the free exchange of ideas among knowledgeable staff within the Department and are not open to the public. The HCFA Physicians Panel serves in a purely advisory role to BERC. Although BERC utilizes the Panel's expertise in determining whether to develop a coverage question as a national policy, BERC retains responsibility for making judgments about referring items to PHS for further study and for making recommendations on coverage for the approval of the HCFA Administrator.

Upon weighing background information and medical literature, the Panel may recommend to BERC that the service should be: (1) Referred to PHS (specifically to the Office of Health Technology Assessment (OHTA) in the National Center for Health Services Research and Health Care Technology Assessment (the National Center), Office of the Assistant Secretary for Health) on either an "inquiry" basis, or for a full assessment as to safety and effectiveness; or (2) that no national coverage decision be made at that time.

A recommendation to refer an issue to OHTA on an inquiry basis may be made if the Panel is uncertain that there is sufficient evidence available to warrant a full assessment, or if only limited information is needed in the context of specific questions. Upon receipt of an inquiry, OHTA typically gathers background information from other PHS and governmental agencies and conducts a more indepth review of the medical literature than the BERC staff is able to do. OHTA contacts FDA for information on the regulatory status of the health care technology, if appropriate, and the National Institutes of Health (NIH), the Centers for Disease Control (CDC), and other agencies for information on its medical and scientific status.

The information gathered by OHTA is then forwarded to BERC. The response generally includes a brief statement of the steps taken in obtaining the information and of the organizations consulted. It responds to all questions raised by BERC, but does not include a recommendation as to coverage or noncoverage.

The following parameters are among the major considerations by the Panel in recommending that an issue be referred to OHTA on an assessment basis:

- The issue is of such importance, that a national coverage decision will likely be required upon completion of the assessment;
- The technology involves significant expenditures for Medicare, that is, the technology has the potential for rapid diffusion in a large patient population or the technology is very expensive on a per case basis;
- The data base appears adequate, that is, there is sufficient scientific evidence to permit conclusions regarding safety and effectiveness (The definition of adequacy will vary according to the nature and course of the disease and the difficulty or complexity of the intervention in conducting clinical trials.); and
- FDA has accepted the technology if it consists of drugs, biologics, or medical devices.

The Panel may recommend that a national coverage decision not be made at that time. In that case, the individual contractor would continue to make coverage decisions on a case-by-case basis. In general, this recommendation is made if the issue involves a new or emerging technology or practice for which it appears there is limited clinical data on which to base a firm coverage decision or when claims have been received from few contractor areas. Coverage decisions in these situtations are best made by the contractor's medical staff, taking into account the unique circumstances of the individual case as well as local standards of care.

D. PHS Assessment Process

When HCFA initiates an assessment by referring an issue to OHTA for a coverage recommendation, OHTA announces the assessment in the **Federal Register**, allowing a 90-day period for public comment. OHTA collects information from a wide variety of sources, including medical literature, Federal agencies, clinical medical specialty groups, and manufacturers associations. All relevant information is analyzed and synthesized in order to develop conclusions regarding the safety and clinical effectiveness of the subject technology. OHTA then prepares an assessment report that contains the information on which a coverage recommendation is based. That report forms the basis for a PHS coverage recommendation that is submitted to HCFA in conjunction with the report. After HCFA makes its coverage decision, the OHTA report is made available to the public.

Note.—PHS has informed HCFA that a revised set of guidelines for this process is being prepared, and this material will, after appropriate internal review, be made available for subsequent public comment.

1. Drugs and Biologicals

Questions regarding coverage of drugs and biologicals are rarely referred to PHS since we have determined as a matter of national policy that drugs or biologicals approved for marketing by FDA are safe and effective when used for indications specified in their labeling. In addition, FDA-approved drugs also may be covered when used for indications other than those specified on their labeling as long as FDA has not specified such use as non-approved. Coverage of non-labeled uses is determined by our contractors taking into consideration the generally accepted medical practice in the community. Treatment Investigational New Drugs (INDs) are approved by FDA but are still considered experimental and not covered by Medicare. Drugs that have not received FDA approval for marketing are considered experimental or investigational and are not covered except for certain cancer drugs distributed by the National Cancer Institute (NCI).

Under its Cancer Therapy Evaluaton, the Division of Cancer Treatment within NCI, in cooperation with FDA, approves

and distributes certain drugs for use in treating terminally ill cancer patients. One gorup of these drugs, designated as Group C drugs, unlike other drugs distributed by the NCI, are not limited to use in clinical trials for the purpose of testing their efficacy. In view of NCI controls on their distribution and use, Group C drugs are covered by Medicare if all other applicable coverage requirements are satisfied.

In accordance with section 202(k)(1)(A) of the Medicare Catastrophic Coverage Act of 1988 (Pub. L. 100–360, enacted July 1, 1988), the Secretary must conduct a study and report to Congress by January 1, 1990 on the possibility of covering certain experimental drugs and biologicals (for example, those used in the treatment of cancer or in immunosuppressive therapy) as outpatient drugs under the Medicare program. Consequently, we are interested in receiving comments on our position concerning Treatment INDs.

2. Devices

FDA approval for the marketing of a medical device will not necessarily lead to a favorable coverage recommendation, particularly if FDA requirements have been met by means of a notice issued under section 510(k) of the Federal Food, Drug, and Cosmetic Act (FFDCA) (21 U.S.C. 360(k)), rather than by means of a premarket approval application (PMA) made under section 515 of the FFDCA. This is because a section 510(k) notice generally does not involve clinical data showing safety and effectiveness. Only limited safety and effectiveness data are generally required by FDA for purposes of a section 510(k) notice. FDA findings of safety and effectiveness focus on the labeled use of a device only, while our decisions may focus on other uses of a device under average conditions of use (that is, other than in a clinical setting).

In accordance with paragraphs (a)(2)(C) and (a)(3)(A) of section 513 of the FFDCA (21 U.S.C. 360c) regarding PMAs, FDA determines the safety and effectiveness of a device by "weighing any probable benefit to health from the use of the device against any probable risk of illness or injury from such use," and effectiveness "on the basis of well-controlled investigations, including clinical investigations where appropriate, * * * from which investigations it can fairly and responsibly be concluded by qualified experts that the device will have the effect that it purports or is represented to have under the conditions of use prescribed, recommended, or suggested in the labeling of the device."

E. Criteria for Making National Coverage Decisions

After considering OHTA's recommendation, HCFA decides whether or not the service should be covered. During the decisionmaking process, a number of issues must be considered, in interpreting the "reasonable" and "necessary" requirements of the Medicare statute. In making national coverage decisions, HCFA interprets the term "reasonable" and "necessary" contained in section 1862(a)(1)(A) of the Act to mean that a service is safe, effective, non-investigational, and appropriate. Not all of the criteria are necessarily pertinent to every coverage issue and each criterion is not necessarily given equal consideration in reaching a final decision. Because of the complexity and variety of issues involved in making coverage decisions, we do not think it is possible, or advisable, to try to set quantitative standards or develop a formula for the application of these criteria.

The criteria are identified below by major headings, with a brief description of each criterion and a detailed, although not exhaustive, list of questions that we try to answer under each criterion. These questions illustrate how the particular criterion is applied. Because it is often impossible to identify absolute benchmarks, it is frequently useful in making these decisions to compare the service in question with other available diagnostic or therapeutic approaches.

1. Safety and Effectiveness

A service may be determined to be safe and effective if it is generally accepted in the medical community as safe and effective. Contrary evidence, however, may support a conclusion that the service is not safe and effective for some or all conditions.

The standards for safety and effectiveness are less stringent when evaluating breakthrough medical or surgical procedures. The more severe and life threatening the disease process, the more acceptable a relatively less safe technology may be when no safer or more effective technologies are available. However, such coverage may have certain limitations, for example, setting, patient selection criteria, or provision to later revise a coverage policy based on subsequent data collection. Medical devices, drugs, and biologicals that have been accepted for marketing by FDA are considered safe and effective for Medicare coverage purposes when used for the conditions prescribed in the labeling.

What is the likelihood that use of the service will cause harm to beneficiaries? Can it be applied safely to a larger proportion of the population than available alternatives? What is the severity of any risks associated with its use? How does the risk associated with this service compare with that of other services designed to accomplish the same or similar purposes? How does the risk associated with this service compare with the severity of the medical condition it is designed to diagnose or treat? What is the source and nature of the evidence to support the safety of this service? How confident are we of our conclusions? What is the likelihood that the service will produce the health benefit it was designed to accomplish? What are the expected outcomes on the morbidity and mortality of beneficiaries to whom it is furnished? What are the indications for its use? Is it equally effective for all indications? How do these outcomes compare with those of available alternatives? If the purpose of the service is diagnostic, is it significantly more accurate or less invasive than available alternatives? If its purpose is therapeutic, is it significantly more reliable or less painful, or does it provide faster healing than available alternatives? How does the effectiveness of this service compare with the severity of the illness or injury it is designed to diagnose or cure? What is the source and nature of the evidence to support the effectiveness of this service? How confident are we of our conclusions? If we are considering a device, has it been approved for marketing by FDA?

If so, what type of review did the device receive (PMA or section 510(k))? Are there any limitations or restrictions on the use of the device? Should the device be used only for certain medical indications?

2. Experimental or Investigational

A service that is furnished for research purposes in accordance with predetermined rules is considered experimental or investigational. A drug (except for certain cancer drugs), biological product, or device that is subject to FDA approval and has not been approved for marketing by FDA is considered experimental or investigational. Except for certain breakthrough medical or surgical procedures, a service that is not used widely because there is inadequate evidence of safety and effectiveness is considered experimental or investigational.

Has the service been generally accepted by the medical community,

and has it emerged from the research stage? Has the drug or biological been used independently or in connection with a medical device approved for marketing by FDA?

3. Appropriateness

A service is considered appropriate if it is furnished in a setting commensurate with the patient's medical needs and condition, and furnished by qualified personnel.

Will the service raise questions of a health and safety nature relating to the appropriate setting? Does use or provision of the service require special qualifications or training?

Among the many relevant considerations, safety and effectiveness are the key factors for our review. Thus, if a health care technology "failed" either of these two criteria, we would decide not to cover it. On the other hand, while the fact that it "passed" both of these tests would clearly have a major influence on our thinking, there are other considerations that affect whether and how broadly a technology might be covered.

Virtually no technology is absolutely without risk or totally effective in all cases. As a general rule in making these coverage decisions, the greater the risk, the greater the need for proven effectiveness. We have noted the interrelationship between the criteria of safety and effectiveness and the nature and severity of the medical condition being treated. Thus, for example, the more severe and life-threatening the condition, the more likely we are to cover a treatment for which clinical effectiveness has not been proven to the usual point of acceptability to us, if there are no other safe and effective treatments available. Similarly, as the level of demonstrated effectiveness drops, the lower is the threshold of acceptable risk.

F. Publication of National Coverage Decisions

HCFA generally requests OHTA's review of any new Medicare coverage instruction that is derived from the OHTA assessment process before its publication. HCFA publishes national coverage decisions in the Medicare Coverage Issues Manual (HCFA Pub. 6). In some cases, HCFA may also publish a coverage decision in other HCFA manuals or as a HCFA Ruling in the **Federal Register**. HCFA makes national coverage decisions available through the issuance of a manual instruction or the publication of a HCFA Ruling in the **Federal Register**. We would also rely on the various medical specialty societies and organizations to disseminate further this information to their members through their organizations' journals and publications.

Additionally, a listing of all manual instructions (which includes national coverage decisions) will be published in a quarterly **Federal Register** notice in accordance with section 4035(c) of the Omnibus Budget Reconciliation Act of 1987 (Pub. L. 100–203). Section 4035(c) requires us to publish quarterly notices that list all manual instructions, interpretative rules, statements of policy, and guidelines of general applicability that implement the Medicare and Medicaid programs.

G. Reevaluation and Reconsideration of National Coverage Decisions

In addition to assessing new services, we might reevaluate a service that is already excluded or covered under the Medicare program. This might occur, for instance, if in a previous assessment, PHS suggests a reevaluation of a service at a later date. The publication of new clinical studies in the medical literature may prompt reevaluation of a service especially if the findings are not consistent with the existing coverage policy. The decison to reevaluate might also occur if a service is considered obsolete. Instances such as these come to our attention in a variety of ways; for example, from other third party payors, through ongoing review of medical literature, or from HCFA central and regional office staff. In all of these instances, the same coverage assessment process is followed as is described above for evaluation of new services, except that if the decision is to withdraw coverage of a service, we would publish a notice for comment in the **Federal Register** announcing that intent.

At any time after publication of a Medicare coverage instruction, interested parties may request reconsideration and submit evidence demonstrating that a reassessment of that coverage decision is warranted. A reassessment would ordinarily only be done if there is acceptable information or evidence available that was not available at the time the most recent assessment was performed. In particular, since an extensive medical literature search was performed in preparation for the initial decision, the documentation for reconsideration would ordinarily include evidence published later than that available at the time of the initial coverage decision. As discussed above, certain types of evidence carry more weight than others in making an assessment of safety and effectiveness. This would also be true of evidence submitted for reconsideration of a coverage decision.

III. Regulation Provisions of this Proposed Rule

A. Reason for Codifying the Coverage Decisions Process

Although the process by which we make Medicare coverage decisons on health care technology has been in place for many years, we believe there are segments of the population that may still benefit from a complete description of the coverage decisionmaking process. We also believe the process should be more open and that the review of breakthrough technologies should be streamlined. It is for these reasons that we are now presenting the coverage decisions process as a public document.

B. Definitions of Commonly Used Terms

We would define the terms "effective", "experimental", "health care technology", "national coverage decision", and "safe" for the purposes of coverage of health care technology under the Medicare program (§ 400.202). These definitions would not apply to the activities of other organizational components of the Department.

C. Cost-effectiveness as an Additional Criterion for Medicare Coverage of Medically Reasonable and Necessary Services

In section II. E. of the preamble, we identified the criteria we currently apply when making national coverage decisions (safety, effectiveness, experimental or investigational considerations, and appropriateness). Also, for each criterion we provided a detailed, although not exhaustive, list of questions we consider in reaching a national coverage decision. In section V. C. of the preamble, we identified and explained the criteria that Medicare contractors currently apply when making coverage decisions in the absence of national coverage decisions by HCFA. In addition to these criteria, we propose that HCFA and Medicare contractors consider the cost-effectiveness of a service when making coverage decisions (§ 405.380). Traditionally, HCFA has interpreted the terms "reasonable and necessary" contained in section 1862(a)(1)(A) of the Act to mean that a service is safe, effective, and widely accepted in the medical community. HCFA is including cost-effectiveness as a proposed criterion because we believe considerations of cost are relevant in deciding whether to expand or continue coverage of technologies, particularly in the context of the current explosion of

high-cost medical technologies. We believe the requirement of section 1862(a)(1) that a covered service be "reasonable" encompasses the authority to consider cost as a factor in making Medicare coverage determinations.

The proper role for cost-effectiveness considerations is an important matter. Cost-effectiveness is one of several potential factors to be weighed in a given situation. In many cases, it may have no bearing at all on our conclusion. However, if a service were to be viewed as marginal with respect to safety and effectiveness, but expensive in comparison with available covered alternatives, we think that cost-effectiveness considerations are appropriate. In this instance, however, outright exclusion from coverage might not be appropriate. To clarify the use of cost-effectiveness as a criterion for coverage as compared to using cost-effectiveness as a criterion for a payment decision, we offer the following example of one possible use of cost-effectiveness as a criterion for a payment decision. Consider the case of a service that is closely comparable with respect to the risks associated with its use and its effectiveness to another already covered service, but the new service is substantially more expensive than the one that is already covered. In this situation, we may wish to cover the new service, while providing the results of our cost-effectiveness evaluation to the payment policy staff and/or Medicare contractors for their use in establishing payment levels. For example, when a claim is filed for durable medical equipment containing features of a nature that are not required by a patient's condition, or when there exists a reasonably feasible and medically appropriate alternative pattern of care that is less costly than that furnished, the amount payable is based on the reasonable cost of the least expensive alternative treatment that appropriately meets the patients' needs.

Formal cost-effectiveness analysis is an analytic tool that seeks to compare the incremental cost with the additional effectiveness of the procedure or technology. Beneficial effects are usually quantified in nonmonetary terms (for example, increased years of life or reduced infection rates per patient), while costs or savings (both medical and nonmedical) are expressed in dollars. We are aware that cost-effectiveness analysis is a complex field that suffers from data limitations and the inability to quantify some costs. Specifically, for many new technologies, accurate measures of patient benefits or economic impacts (for example, incremental hospital costs) are imprecise because the device or procedure has not been used on many patients. Furthermore, even when data are available, methodological difficulties (for example, selecting a method for projecting future costs) and inherent subjectivity can seriously hamper analysis.

We may not consider cost-effectiveness in every coverage decision. For example, if there is a significant breakthrough or lifesaving technology for which there is no comparable alternative, we could not attempt a comparison to other available technologies since none exist. Another example is consideration of the provisions of section 1861(t)(2) of the Act (as added by section 202(a)(2)(C) of Pub. L. 100–360). That section provides Medicare Part B coverage of outpatient prescription drugs, biological products, and insulin which are not presently covered as part of, or as incident to, other covered services. Coverage for this new benefit is effective for drugs used in immunosuppressive therapy and drugs that are intravenously administered to an individual in the home beginning January 1, 1990, and for other covered outpatient prescription drugs beginning January 1, 1991. Specifically, section 1834(c)(5)(C) of the Act (as added by section 202(b)(4) of Pub. L. 100–360), prohibits the exclusion from coverage or denial of payment of a covered outpatient drug or class of outpatient drugs, or of any specific use of such a drug for a specific indication, unless the exclusion is based on a finding by the Secretary that the use is not safe and effective. We believe the Act precludes the application of the cost-effectiveness criterion to covered outpatient drugs, and we do not plan to apply the cost-effectiveness criterion to those drugs, although we request comment on the issue.

We believe that a disciplined effort to assess systematically the cost-effectiveness of technologies under coverage review will be useful. We propose to use a flexible definition of cost-effectiveness that encompasses a wide range of impacts: Cost-effectiveness means having improved health outcomes for Medicare patients that justify additional expenditures. In this regard, we would consider a technology cost-effective if, based on analysis, it demonstrated one of the following results:

- It is less costly and at least as effective as an alternative covered technology.
- It is more effective and more costly than a covered alternative, but improved health outcomes justify additional expenditures.
- It is less effective and less costly than an existing alternative, but is a viable alternative for some patients.

To establish the cost-effectiveness of any intervention, we propose to follow a standard set of analytical steps that are well accepted among economists. These steps are:

- Identify the relevant alternative technologies to which the current intervention is to be compared.
- Identify all the relevant outcomes from the alternative technologies and, when possible, quantify them. These may include clinical outcomes such as reduced morbidity and mortality, or qualitative outcomes such as reduced pain, enhanced personal well being, vigor, etc.
- Identify all the relevant costs expected (both Medicare and non-Medicare) from the interventions, including direct medical costs or savings and indirect costs such as enhanced productivity for the disabled, transportation, etc. These will generally be valued in dollars at standard levels relevant to the Medicare program (for example, Part B charge payments or Part A DRG outlays).
- Consider nonquantifiable factors. Since all technology impacts cannot be fit into a conventional cost-effectiveness formula, the range of nonquantifiable factors (for example, ease of use, and access to ambulatory setting) should be described and considered as modifiers of the analysis.

We believe the regular application of these principles by HCFA, as well as by those proposing new technologies for coverage, would vastly improve our knowledge base and be a deterrent to coverage of procedures that may be costly, but have little or no impact on improving health outcomes. To aid in this process, HCFA's Office of Research and Demonstrations is planning a study to develop an approach for collecting and analyzing primary and secondary data for cost-effectiveness considerations. Based on this study and a review of other existing studies and models, a methodology would also be developed for making periodic policy decisions based on cost-effectiveness considerations. We specifically invite the public to comment on cost-effectiveness methodologies that could be appropriate for Medicare's use.

D. Procedures for Medicare Contractors in Making Coverage Decisions

We would establish a new § 405.381 and outline the procedures Medicare contractors would follow in making

coverage decisions. The regulations would set forth contractor responsibilities, including the review of individual claims and making coverage decisions in the absence of national coverage decisions by HCFA.

E. HCFA Procedures for Making National Coverage Decisions

We have set forth the key criteria and procedures in the coverage decisions process (§§ 405.380 and 405.382) by which, under seciton 1862(a)(1)(A) of the Act, we make coverage decisions that are national in their scope and application. As stated earlier, our purpose is to clarify and inform the public regarding the grounds on which we conclude that a national coverage decision is warranted, the sources of information we use in making these decisions, and the public's opportunity to participate in the process and be informed of its results.

F. Carrier Coverage Process

We are proposing a process for carriers to use in developing utilization review policy. This process would include notifying the appropriate groups of a proposed policy and the need for and basis of establishing it and soliciting comments from them prior to its implementation.

G. Conforming Changes

We also would amend the title and authority citation to Part 405, Subpart D to conform to the new sections being added.

IV. Relationship With Other Agencies

Following is a broad overview of the mission of other agencies and a description of our relationship with them as it applies to the coverage decisionmaking process.

A. Food and Drug Administration

FDA protects the public health of the nation as it may be impaired by foods, drugs, biological products, cosmetics, medical devices, radiological products, poisons, pesticides, and food additives. FDA's regulatory functions are to assure that: Foods are safe, pure, and wholesome; drugs, medical devices, and biological products are safe and effective; cosmetics are harmless; all of the above are honestly and informatively packaged; and that exposure to potentially injurious radiation is minimized. The participation of FDA is critical to the Medicare coverage process since, as discussed earlier, FDA approval of drugs, devices, and equipment must precede Medicare coverage in many cases. FDA staff regularly attend HCFA Physicians Panel meetings in an advisory capacity. Likewise, we monitor FDA advisory panel meetings and attend those that relate to potential Medicare coverage issues.

B. Prospective Payment Assessment Commission (ProPAC)

ProPAC was established by Congress when legislation authorizing implementation of the Medicare prospective payment system was enacted. ProPAC was established as a permanent, independent commission with responsibilities related to monitoring and making recommendations relative to improvements in the prospective payment system.

ProPAC has two primary responsibilities. The first is to recommend annually to the Secretary of HHS the appropriate percentage change in Medicare payments for inpatient hospital care. The second is to consult with and recommend to the Secretary necessary changes in classification and weighting of diagnosis-related groups (DRGs) based on scientific evidence available on the impact of new technologies. All national coverage decisions that potentially affect prospective payment rules or rates are routinely referred to ProPAC for its review and comment prior to publishing the decisions as notices in the **Federal Register** and later as instructions in the Medicare Coverage Issues Manual (HCFA Pub. 6) or other HCFA manuals, or as HCFA Rulings in the **Federal Register.**

C. National Institutes of Health

NIH serves as the principal biomedical research agency of the Federal Government. Through the support and promotion of biomedical research, NIH seeks to improve the health of the American people by: Increasing the understanding of the processes underlying human health, disability, and disease; advancing knowledge concerning the health effects of interactions between man and the environment; developing methods of preventing, detecting, diagnosing, and treating disease; and disseminating research results for critical review and, ultimately, medical application. In the pursuit of this mission, NIH supports biomedical and behavioral research in this country and abroad, conducts research in its own laboratories, trains promising young researchers, and promotes the acquisition and distribution of medical knowledge.

With its budget for development of new technologies and treatment, NIH is a major supporter of clinical trials, a key component of the technology assessment process. NIH also sponsors and coordinates consensus development conferences through its Office of Medical Applications of Research (OMAR). These conferences are routinely attended by HCFA staff because they deal with technologies that, for the most part, have passed the investigational stage and have diffused into practice. OMAR directs questions on technologies being investigated for Medicare coverage to the knowledgeable institute where the latest available information on that issue can be syntheseized quickly. OMAR staff regularly attend our Physicians Panel meetings and inform Panel members of current and future consensus conferences on various topics that might be of interest to the Medicare population. HCFA and OHTA staff often exchange information with NIH staff on current medical developments. Further, OHTA often uses NIH resources as a source of expert opinion on various services under study.

V. Contractor Functions and the Claims Process

A. General

As explained above, the Medicare program covers many medical and health care services, supplies, and procedures in use today, subject to established coverage criteria—the exclusions and limitations in the statute, regulations, and administrative instructions described in section I of this preamble. The claims review process for the Medicare program is designed to identify services that may not be covered. Resolving these issues is usually a matter of deciding whether the service, either in or by itself or under the specific circumstances of a particular use, statisfies the established coverage criteria.

B. Contractor Functions

The separation of the Medicare program into an institutional component (Part A) and a noninstitutional component (Part B) was patterned after a program alignment used by Blue Cross/Blue Shield Associations in paying for services to their subscribers. In order to assure that the Federal health insurance program would benefit from the longstanding experience of health insurance carriers in the private sector, the Secretary decided that most claims-processing and administrative functions for both Part A and Part B of Medicare should be handled by public or private insurance organizations (commercial insurers or Blue Cross/Blue

Shield Associations) acting as fiscal agents or contractors for the Medicare program.

The contractors responsible for the administration of hospital insurance or Part A benefits are termed fiscal intermediaries. The major role of the intermediaries is to review and pay claims submitted by providers (such as hospitals, SNFs, and HHAs) for covered services furnished to beneficiaries. The intermediary makes payments for inpatient services under the prospective payment system and makes payments for outpatient services by reviewing submitted cost reports and making reasonable cost determinations following policies set by HCFA.

Under Part B, the contractors are called carriers. Since Part B services are reimbursed primarily on a reasonable charge (as opposed to reasonable cost or the prospective payment system) basis, one of the major functions of carriers is to determine the reasonable charges in their respective areas for each medical care service paid for under the program. Carriers also are responsible for reviewing and paying claims to or on behalf of beneficiaries for the services provided.

The functions performed by Medicare fiscal intermediaries and carriers include utilization review, beneficiary hearing and appeals, professional relations, and statistical activities, in addition to claims review and processing. Currently, there are 48 carriers, 57 intermediaries, and some HMOs and CMPs under contract with HCFA that perform reviews and process claims for their Medicare members. In addition to these contractors, we also contract with PROs.

Before describing the functions of PROs, it is necessary to provide a brief history of utilization review under Medicare. In designing the Medicare program, Congress was concerned about controlling the costs of the program and ensuring that Medicare beneficiares received only those services that were medically necessary. However, Congress also wanted to assure that judgements regarding the medical necessity of specific services would be based on the specific knowledge, skills, and experience that only physicians and related health practitioners could provide. Therefore, Congress initially required that hospitals and SNFs have utilization review committees, staffed by physicians, to review the admissions, duration of stay and professional services furnished to Medicare beneficiaries according to the criteria of medical necessity and most efficient use of available health facilities and services. In 1972, Congress amended the Medicare law to improve the medical review function by establishing a utilization review program that relied upon organizations (Professional Standards Review Organizations (PSROs)) outside of the individual facilities serving Medicare beneficiaries.

In order to improve further the conduct of medical review of Medicare claims, Congress enacted the Peer Review Improvement Act in 1982 and required the Secretary to contract with PROs, which are private entities composed of licensed physicians in a geographical area who are engaged in the practice of medicine and surgery and who represent the practicing physicians in that area. Currently there are 54 PROs. Subject to the terms of its contract, a PRO is responsible for the review of specified professional activities in its area for which payment may be made by Medicare, for the purpose of determining whether: (1) The services are or were reasonable and medically necessary; (2) the quality of the services meets or met professionally recognized standards of health care; and (3) services that are proposed to be furnished or were furnished on an inpatient basis, could be provided effectively on an outpatient basis.

C. Criteria and Procedures for Contractor Coverage Decisions

Contractors make Medicare coverage decisions within parameters set by statutory authority, regulations, and program instructions prepared by HCFA to implement regulations and statutory authority.

If we have issued a national coverage decision, contractors are bound by that decision. If no national coverage decision has been issued, a contractor must decide whether the service in question appears to be reasonable and necessary and therefore covered by Medicare.

As stated previously most of the individual claims processed by Medicare contractors do not raise serious questions about coverage. When questions of coverage do arise, they relate primarily to whether the service was medically necessary for the individual and was furnished in an appropriate manner and setting, rather than to broader coverage issues. Even when a claim for a new, or otherwise questionable, service is received, the contractor is authorized to make reasonable and necessary decisions with respect to the service, in the absence of applicable national policy. These decisions are usually made in consultation with the contractor's own medical staff and local medical specialty groups. It should be noted that, since each contractor makes decisions only for Medicare claims that are submitted to it, coverage of a particular service may vary among contractors. In fact, coverage decisions made by the same contractor may appear to vary from claim to claim reflecting relevant differences in the circumstances in which the service is furnished or the need of the particular patient for that service. This variation is consistent with the legislative intent that the administration of the Medicare program take into account both differences in local medical practice and the types of treatment feasible individual patient situations.

Over time, written guidelines have been issued to Medicare contractors to assist them in making initial decisions as to whether, in individual cases, services are reasonable and necessary and therefore covered under Medicare. In addition to considering the criteria that must be considered when making any coverage decision (that is, the service must be safe and effective, not experimental, and appropriate), Medicare contractors must determine whether the service under consideration is—

- Medically necessary in the particular case and the duration and frequency of the use or application of the service are medically appropriate;
- Furnished in accordance with accepted standards of medical practice; and
- Furnished in a setting appropriate to the patient's medical needs and condition (such as inpatient care at a hospital or SNF, outpatient care at a hospital or physician's office, or home care).

D. Appeals Procedures

Sections 1155, 1869, 1876, 1878 and 1879 of the Act authorize administrative and judicial review for beneficiaries and providers (in certain cases) to challenge certain adverse coverage decisions. Since certain parts of these sections are now under review, a detailed description of their application is not being presented. Refer to the specific sections of the Act for information or appeals procedures.

VI. Analysis of and Responses to Public Comments for April 29, 1987 Notice

In response to the April 29, 1987 notice that we published in the **Federal Register**, we received 62 timely items of correspondence. Of these, 30 were identical letters from health professionals and administrators in facilities providing rehabilitation

services, two others were from rehabilitation professionals, 10 were from professional associations or councils, six where from Medicare providers (including three from the same provider), three were from law firms, three were from medical equipment suppliers, and one each was from a medical consultant, a management firm, a State Governor, a State office for the handicapped, a Medicaid State agency, and a private individual.

HCFA also received two letters from the Administrative Conference of the United States, one of which enclosed an informational outline of a study of the Medicare coverage decision process that the Administrative Conference has commissioned.

Several of the comments referred to the coverage of or payment for specific services. Because the inent of the notice was to describe the general coverage decisionmaking process and to solicit comments on that process, we have not responded to those comments on the coverage or payment of specific services in this proposed rule.

A. Inconsistent Medicare Contractor Decisions

Comment: Forty of the 62 commenters (including the 30 identical pieces of correspondence) suggested that Medicare contractors should not have the discretion they currently have in making coverage decisions. They argued that inconsistencies between the differenct contractors lead to inequitable treatment of beneficiaries.

Response: We are aware that coverage of a particular service may vary among contractors. This variation is to be expected, we believe, in view of Congressional intent that the Medicare program be administered to some extent by numerous contractors who could make decentralized determinations and take into account differences in local medical practice. We also note that decisions with respect to some services may appear to vary because what is medically necessary for one patient may not be medically necessary for another. Further, we cannot develop guidelines that are sufficiently detailed to encompass all possible coverage decisions. However, in view of the number and consistency of the comments on this issue, we believe that we must take certain steps to improve consistency in contractor coverage decisions. First and foremost, we expect the publication of this proposed rule and subsequent final rule to reduce significantly the inconsistency in contractor coverage decisions, since, as described in greater detail in our responses to other comments below, we are proposing to define the terms "safe" and "effective" (§ 400.202) when used in the context of making a national coverage decison on any health care technology, and to specify the criteria and procedures to be applied by contractors in making coverage decision (§§ 405.380 and 405.381). We also propose to convene annually the medical directors and other officers of all our carriers, intermediaries, and PROs, as well as representatives of our regional offices, to review all aspects of the coverage process including recently issued national coverage decisions. Finally, we are proposing a process for contractors to follow in developing utilizaiton review policy. This should facilitate greater consistency in the standards and criteria used by all carriers and the program which they follow.

B. Define "Reasonable", "Necessary", and "Experimental"

Comment: Several commenters recommended that we define the terms "reasonable," "necessary," "experimental," and other commonly used terms.

Response: We partially agree with the commenters and we have included several definitions in these proposed regulation (§ 400.202) as these terms relate to health care technology. Although we do not define specifically the terms "reasonable" and "necessary," we do specify the criteria that a health care technology would have to meet in order to be considered reasonable and necessary, as well as how the criteria would be applied in the coverage decisionmaking process. We believe that the uniform application of these definitions and criteria by our contractors would reduce inconsistencies in their coverage decisions. We also believe it is important to define in regulations the terms "safe" and "effective," since our definitions differ slightly from those of FDA. That difference has not been clearly stated in the past, giving the public the impression that an FDA finding that a device is safe and effective should be a sufficient basis for Medicare coverage. As discussed in this preamble, safety and effectiveness are not the only criteria applied when deciding whether a given technology can be considered reasonable and necessary. Further, FDA findings of safety and effectiveness focus on the labeled use of a device only, while our decisions may focus on other uses of a device under average conditions of use.

C. Issue Contractor Criteria for Making Decisions

Comment: Several commenters recommended that we issue contractor criteria for making coverage decisions.

Response: In view of the comments that inconsistencies in coverage decisions among Medicare contractors are related in part to a lack of clear criteria, we propose to define the criteria and their application in regulations (§§ 405.380 and 405.381).

D. Coverage Criteria

Comment: One commenter, in recommending that our coverage criteria be explicit, also suggested that we specify that neither experimental status nor cost is a criterion on which coverage decisions are made. It was argued that we cannot use criteria for coverage that extend beyond what the medical experts think are reasonable and necessary for an individual's medical needs, and that the statute does not authorize us to deny coverage of a service on the basis that it is experimental or not cost-effective.

Response: We believe that experimental services cannot be considered reasonable and necessary since, by definition, their safety and effectiveness are not established. As discussed in this preamble, the reasonable and necessary language of the law permits the inclusion of costs as a criterion in making Medicare coverage decisions. We invite comments on the issue of cost-effectiveness.

E. Absence of Public Input and Comment in the Coverage Process

Comment: Several commenters suggested that the public be given the opportunity to provide input at every step of the coverage process, while others focused their requests for public input on selected steps only.

Response: While we are in basic agreement with the value of public input, we are concerned that public input at every step of the process through notice and comment in the **Federal Register** would delay significantly a process that many of the same commenters argue is already too lengthy. We are interested in receiving public comment on this issue and specific suggestions on how to balance these two conflicting objectives. Our responses to suggestions for public input at specific points in the process follow.

Comment: It was suggested that the public should have the opportunity to petition us to consider a service for a coverage decision and that we routinely publish the agendas of HCFA Physicians Panel meetings.

Response: Under our current process, requests from the general public are handled in the same manner as any other request for a coverage decision and, if they meet our criteria for a national coverage decision, may be placed on the agenda of the HCFA Physicians Panel for its consideration. We agree that routine publication of the Panel agenda would be desirable. While the fact that we frequently add agenda items 3 to 4 weeks before the meeting precludes providing timely notification to the public through the **Federal Register**, we plan to identify other more appropriate and timely vehicles for announcing upcoming HCFA Physicians Panel meeting agenda to the public.

Comment: Commenters expressed concern that there is no assurance that knowledgeable professionals are involved in the process and suggested that a health professional familiar with the particular area of health care be a member of the Panel. Other commenters suggested that HCFA Physicians Panel meetings be open to public participation.

Response: As described earlier, the HCFA Physicians Panel has regular representation from the medical and scientific experts at FDA and NIH to contribute specialized knowledge on all agenda items. In response to the comments that the Panel meetings be open to the public, we believe that the current HCFA Physicians Panel process should be modified. We do believe the functioning of the Panel could be improved by allowing some public input. We propose to permit the presentation, by interested parties, of information related to agenda items prior to deliberations by the Panel. We believe this process would assure that the Panel hear from, and have the ability to submit questions to, a health professional familiar with the particular area of consideration, while continuing to allow it the necessary benefits of a closed decisionmaking opportunity.

Comment: It was suggested we solicit public comments on OHTA assessments and coverage recommendations before we make a final coverage decision.

Response: We are opposed to this suggestion because we believe it would lead to considerable delay in a final decision on Medicare coverage with no real benefit. The public is given considerable notice and opportunity to provde input to OHTA during OHTA's assessment process. OHTA's recommendations to HCFA, based on that information, are only a portion of the material that is considered by HCFA in arriving at its final decisions on coverage of a specific service. It is at the time of a HCFA decision, not OHTA recommendation, that public comment would have the greatest value for both the commenters and HCFA. As discussed below, HCFA does solicit public comment on its Medicare coverage decisions through the **Federal Register** when the benefit of public input is sufficient to outweigh the substantial delay of making a final decision.

Comment: It was also suggested that we make available through public notice and comment all coverage decisions on health care technology before issuing them in HCFA manuals.

Response: We are opposed to this procedure affecting all coverage decisions, primarily because it would routinely result in substantial delay in the issuance of final coverage decisions. As noted, we do seek public comment before finalizing a Medicare coverage decision when we believe that the value gained from the public comment process outweighs the delay in making a final decision. We also have requested comment on our decisions when controversy in the scientific community is intense and the impact of the decision on the public and medical community is profound (for example, coverage of heart transplants). Otherwise, we count on gaining the public's views on coverage issues through the opportunity provided in the OHTA assessment process, as well as through public participation prior to the HCFA Physician Panel deliberations. We believe this approach would provide a mechanism for informing the public of national coverage decisions on health care technology without involving the extensive delay associated with formal notice and comment rulemaking.

Comment: Two commenters suggested that we publish coverage decisions on health care technology in medical journals and other publications of the health care industry since our manual instructions are not readily available to beneficiaries, practitioners, and providers.

Response: We agree that our decisions should be more readily available. Therefore, in addition to the publication of quarterly notices in the **Federal Register** listing coverage decisions (§ 405.382(g)), we propose to make national coverage decisions available to the public as soon as they are issued through the **Federal Register**.

The various medical specialty societies and organizations can disseminate this information to their members through the various journals and publications of their organizations. Also, we are prepared to work closely with national organizations representing beneficiaries and physicians to apprise these organizations of our coverage decisions and to work with them to develop effective means to inform their constituencies about national coverage decisions and Medicare coverage policy in general.

F. Composition of HCFA Physicians Panel

Comment: One commenter suggested that a representative of FDA be a member of the Physicians Panel. Another commenter suggested that a representative from the prepaid health care industry be added.

Response: At the present time, FDA and NIH staff routinely attend HCFA Physicans Panel meetings and actively participate in discussions. We do not believe that a representative from the prepaid health care industry needs to be added to the Panel since we do not specifically include representatives of provider groups. The Physicians Panel is composed of staff physicians and other health professionals in HCFA's central office and counterparts from PHS who have had experience with a variety of health care delivery systems.

G. Time Frame for Process

Comment: Several commenters suggested that each step in the process of making national coverage decisions be limited to a certain number of days. One commenter also suggested that we establish a two track review system that distinguishes technologies that have had Federal review based on documentation of safety and effectiveness from technologies with no such review and that the time frame for these two tracks be different. The commenter suggested reviewing devices accepted by FDA following review of a PMA or a section 510(k) application supported by clinical data on a faster track.

Response: We do not believe it would be feasible to place time limitations on each step of the process. Generally, we cannot anticipate the documentation needs that may apply at the various stages of the process or predict the time required to gather documentation at each stage. Moreover, the data that must be reviewed and analyzed vary so widely from issue to issue that it is not possible to establish standard time frames. Also, the level of evidence for safety and effectiveness may vary, depending on whether a device or procedure is a treatment of last resort or otherwise involves new lifesaving techniques. We do, however, agree that our coverage decisionmaking could be expedited if the service under consideration has received, or is soon expected to receive, FDA acceptance under the PMA or the section 510(k) processes. In that regard, it is our

intention to expedite assessments for breakthrough, well-researched devices and procedures.

H. Improving Coordination with FDA.

Comments: One commenter suggested that for FDA-regulated technologies, HCFA and OHTA review begin when the FDA advisory panel approves a technology since this panel decision indicates a high likelihood of FDA approval. The commenter believes that by starting HCFA and OHTA reviews at the point of approval by the FDA advisory panel, delays would be reduced and agency decisionmaking would be better coordinated.

Response: We agree with this suggestion but only under certain circumstances. First, we do not believe that we should review automatically every technology that is favorably reviewed by an FDA advisory panel since in many cases some of these technologies do not meet our criteria for consideration of a national coverage decision. Second, not all manufacturers would be interested in having their technology subjected to the Medicare coverage process.

Consequently, we prefer to consider for a national coverage decision only those technologies selected by us or referred to us by physicians, manufacturers, or other interested parties. We are prepared to begin that review following a favorable FDA advisory panel recommendation, or earlier if warranted, by placing the issue on the agenda of the next available HCFA Physicians Panel meeting. Also, so that we can better coordinate our national coverage decisionmaking process with FDA, we plan to meet with them on a quarterly basis to discuss issues of mutual concern and to facilitiate our review of technologies under FDA review that potentially may affect the Medicare beneficiary population. We wish to note that we have considered some services for a national coverage decision before they received formal FDA approval. For example, we requested assessments of magnetic resonance imaging and automatic implantable cardioverter/defibrillators many months before they were approved for marketing by FDA.

I. Coverage Exclusions Deter Research

Comment: One commenter suggested that the exclusion of coverage for a service deters further research into the application of that service, making it more difficult to accumulate the data needed for reconsideration or reevaluation.

Response: We recognize that further research may be discouraged if a service is excluded from Medicare coverage, but we cannot approve procedures or devises lacking evidence of safety and effectiveness simply in order to provide a basis for developing that evidence. This approach would be contrary to the statutory provision that we pay only for a service that is determined to be "reasonable" and "necessary".

J. Interim Payments during the Coverage Decisions Process

Comment: One commenter suggested that we establish an interim coverage status allowing payment for certain technologies during the coverage decisions process.

Response: We are opposed to providing, on an interim basis, a national coverage decision of any service during our coverage decisions process because to do so could pose serious legal and practical problems under section 1862(a)(1)(A) of the Act. Section 1862(a)(1)(a) precludes Medicare payment for a service unless it is reasonable and necessary. We believe that reaching an interim decision, which would effectively require us to determine that the service was reasonable and necessary would, as a practical matter, require us to undertake a level of full review virtually tantamount to the review required for making a final national coverage decision before we have the benefit of considering all relevant factors. This procedure would be cumbersome, redundant, and potentially confusing to the public. Moreover, it would place an undue burden on the Medicare program, which could essentially be required to surmount a higher hurdle by finding on full review that a service it has approved on an interim basis as reasonable and necessary does not now meet that standard. On the other hand, we also are opposed to issuing interim noncoverage instructions, since to do so could eliminate the availability of potentially valuable services to our beneficiaries when there may be some credible indications that the service may meet the reasonable and necessary criteria, at least in particular circumstances. Consequently, we believe the prudent approach to the interim coverage of issues under national consideration is to leave the decisionmaking in the hands of the local contractors, who can take into account local medical practice and the unique circumstances of an individual case.

K. Carrier Screens

Comment: Several commenters raised the issue of contractor "screens" and objected to the use of screens for coverage decisions and denials without explanations or requests for additional information. Others objected to the fact that they are generally unaware of these screens and their medical rationale and thus are unable to tailor their services to beneficiaries to comply with screens that comport with good medical practice.

Response: In order to facilitate claims processing and identify possible overutilization, Medicare contractors have developed "screens". These screens alert the contractor that services or procedures performed by a provider have exceeded a treatment norm set by the contractor; that is, it does not fall within a certain predetermined range. When this occurs, the claim for services can then be reviewed more intensely to determine if further medical evidence is necessary to process the claim properly. In general, carriers seek physician consultation from appropriate specialities when developing screens. The policy and related documentation requirements are then communicated to physicians prior to implementing them.

We received comments that some contractors may be developing or applying the screens inappropriately. We therefore have proposed a process for contractors that would involve the local medical community in the development of utilization review policy (§ 405.383(a)). This proposed process would apply to the development of new utilization review policy only; it would not apply to any existing utilization review policy. The local medical community would be notified of the type of information that would be required to be submitted with a claim for any service subject to review. However, they would not be informed of certain operational parameters of the policy, such as the number of claims over a given period of time that would be paid without manual review, since to do so could encourage over-utilization based on the knowledge that claims would not be reviewed.

In response to the concerns that some claims are denied inappropriately, we propose to prohibit the denial of claims that are the subject of medical review in accordance with a utilization review policy without review of all relevant information submitted with the claim (§ 405.383(b)).

L. Monitoring Contractor Performance

Comment: One Commenter recommended that we leave our current process unchanged and direct our attention to the reeducation of claims processors and the careful monitoring of our contractors.

Response: We have not accepted this comment. The claims processing personnel of our contractors are educated on an ongoing basis and our contractor evaluation process undergoes constant scrutiny and revision when needed.

M. Physician Review of Adverse Decisions

Comment: One commenter asked for clarification of the following statement on page 15561 of the April 29, 1987 **Federal Register:** "Only a physician can make an adverse determination and only after consulation with the attending physician." It is unclear to the commenter whether this requirement applies only to PRO decisions or to decisions made by other contractors as well. The commenter believes the requirement should apply to all contractors and all aspects of review under the Medicare program.

Response: We regret that the notice was not clear concerning this statement. The statement as written relates only to PRO decisions and is based on section 1154(a)(2) of the Act. The issue is complicated by the fact that PRO medical necessity decisions are binding on the carriers and intermediaries. However, not all denials are made by the PROs. Except for PRO decisions, there is no statutory requirement that only a physician can make an adverse decision. However, in practice, any claim initially denied by carrier or intermediary review staff generally will be reviewed by qualified medical review staff using written guidelines developed by a physician if the denial is appealed or the claim is resubmitted with additional documentation. We believe this process is a reasonable one since mandatory physician review of all denials by carriers and intermediaries would be prohibitively expensive.

N. Equipment and Coverage for Long Term Disabilities

Comment: Several commenters complained that the program does not cover and pay for the latest equipment needed by the long-term disabled individual.

Response: It is not clear why commenters believe that long-term disabled individuals are denied the benefits of the latest and best technology by the Medicare program. Our program regulations for the coverage of durable medical equipment (DME) and other medical supplies are the same for all Medicare beneficiaries, whether they are among the long-term disabled, the chronically ill, or the acutely ill. It is true, however, that new equipment might not be covered by Medicare as soon as it is introduced. At a minimum, equipment that requires marketing approval by the FDA must receive that approval. In addition, DME must be shown to meet the Medicare program's definition of DME, that is, equipment that (1) can withstand repeated use, (2) is primarily and customarily used to serve a medical purpose, (3) generally is not useful to a person in the absence of an illness or injury, and (4) is appropriate for use in the home.

With respect to the concerns expressed about our alleged willingness to pay for the "best" equipment available (which, in many circumstances, is the most expensive), our policy is a rather straightforward one, and one that we believe does not require revision. An item of durable medical equipment may have certain convenience or luxury features that make it more expensive than a standard item; that is, one which will adequately meet the medical needs of the patient. The reasonable charge for the more expensive item cannot exceed the reasonable charge for the item that is adequate for the patient's medical needs. We will base the reasonable charge for a covered service on the more expensive model only when the special features of the more expensive model are medically reasonable and necessary for the beneficiary.

O. Confidentiality of Data

Comment: One commenter recommended that we publish our policies on confidentiality to facilitate submission of sensitive, not-yet-published research data that document safety and effectiveness.

Response: HCFA regulations regarding the Freedom of Information Act appear in 42 CFR Part 401 and supplement the more general Department regulations that appear at 45 CFR Part 5. These regulations implement Executive Order 12600, "Predisclosure Notification Procedures for Confidential Commercial Information", signed June 23, 1987.

In accordance with these regulations, to facilitate the identification of confidential commercial material, organizations are encouraged to mark relevant sections of submitted material (individual pages, reports, charts, etc.) as "confidential". Blanket statements claiming that all submitted material is confidential should be avoided. Instead, organizations should clearly mark all specific portions of submitted material that in fact contain confidential commercial information.

VII. Proposed Uncodified Changes to the Current Coverage Decisions Process

As a result of our assessment of necessary revisions and in response to the public comments we received on the April 29, 1987 **Federal Register** notice, we propose to make the following changes in our coverage decisionmaking process, which we believe do not require codification in the Code of Federal Regulations (CFR).

A. HCFA Physicians Panel

We propose to identify appropriate vehicles for announcing the date, and agenda of upcoming HCFA Physicians Panel meetings.

B. Improved Coordination and Communication

We propose to convene an annual meeting of the medical directors and other officers of all our carriers, intermediaries, HMOs, CMPs, and PROs as well as representatives of our regional offices, to review all aspects of the coverage process including recently issued national coverage decisions. This should facilitate and reduce any inconsistencies in the implementation of national coverage decisions and allow for the identification of additional issues for which national coverage decisions may be warranted. We also plan to meet with FDA on a quarterly basis to discuss issues of mutual concern and to facilitate our review of health care technologies under their review that may potentially impact on the Medicare beneficiary population.

VIII. Regulatory Impact Statement

Executive Order (E.O.) 12291 requires us to prepare and publish an initial regulatory impact analysis for any proposed regulation that meets one of the E.O. criteria for a "major rule", that is, that would be likely to result in : an annual effect on the economy of $100 million or more; a major increase in costs or prices for consumers, individual industries, government agencies, or geographic regions; or, significant adverse effects on competition, employment, investment, productivity, innovation, or on the ability of United States-based enterprises to compete with foreign-based enterprises in domestic or export markets.

In addition, we generally prepare an initial regulatory flexibility analysis that is consistent with the Regulatory Flexibility Act (RFA) (5 U.S.C. 601 through 612), unless the Secretary certifies that a proposed regulation would not have a significant economic impact on a substantial number of small entities. Also, section 1102(b) of the

Social Security Act requires the Secretary to prepare a regulatory impact analysis if the proposed rule may have a significant impact on the operations of a substantial number of small rural hospitals. Such an analysis also must conform to the provisions of section 603 of the RFA.

This proposed regulation would specify the process through which we make decisions as to whether to cover particular services under Medicare. These decisions are published in the Medicare Coverage Issues Manual and may be published in other HCFA manuals or as HCFA Rulings in the **Federal Register**. This proposed regulation would foster the careful consideration of available scientific and medical information in the coverage determination process. Accordingly, it would serve to ensure that all Medicare coverage determinations are consistent with our statutory obligations. The coverage decision process set forth in this proposed rule would thus of itself, neither promote nor hinder any specific economic outcomes (as opposed to any particular coverage decision, which might have a substantial economic impact). Furthermore, most provisions of this proposed rule conform to the Medicare coverage determination process that has been in place for many years. Therefore this proposed regulation, in itself, would have no direct effect on the economy or on Federal or State expenditures, and no threshold criteria under E.O. 12291 would be exceeded. Consequently, an initial regulatory impact analysis has not been prepared. In addition, we have determined, and the Secretary certifies, that this proposed rule would not have a significant economic impact on a substantial number of small entities, and this proposed rule would not have a significant impact on the operations of a substantial number of small rural hospitals. We have, therefore, not prepared an initial regulatory flexibility analysis.

IX. Information Collection Requirements

These proposed changes do not impose information collection requirements. Consequently, they need not be reviewed by the Office of Management and Budget (OMB) under the authority of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 *et seq.*).

X. Responses to Comments on this Proposed Rule

Because of the large number of comments we receive on proposed regulations, we cannot acknowledge or respond to them individually. However, in preparing the final rule, we will consider all comments received timely and respond to the major issues in the preamble to that rule.

List of Subjects

42 CFR Part 400

Grant programs—health, Health facilities, Health maintenance organizations (HMO), Medicaid, Medicare, Reporting and recordkeeping requirements.

42 CFR Part 405

Administrative practice and procedure, Health facilities, Health professions, Kidney diseases, Laboratories, Medicare, Nursing homes, Reporting and recordkeeping requirements, Rural areas, X-rays.

For the reasons set forth in the preamble, 42 CFR Chapter IV would be amended as follows:

I. 42 CFR Part 400, Subpart B, is amended as set forth below:

PART 400—INTRODUCTION; DEFINITIONS

Subpart B—Definitions

1. The authority citation for Part 400 continues to read as follows:

Authority: Secs. 1102 and 1871 of the Social Security Act (42 U.S.C. 1302 and 1395hh) and 44 U.S.C. Chapter 35.

§ 400.200 [Amended]

2. Section 400.200 is amended by adding the definition of "PHS" in alphabetical order to read as follows:

* * * * *

"PHS" stands for the Public Health Service.

* * * * *

3. Section 400.202 is amended by adding the definitions of "Effective", "Experimental", "Health care technology", "National coverage decision", and "Safe" in alphabetical order to read as follows:

§ 400.202 Definitions specific to Medicare.

* * * * *

"Effective" means the probability of benefit to individuals in a defined population from a medical technology applied for a given medical problem under average conditions of use.

* * * * *

"Experimental" means a technology that should be confined to a research setting under which human or animal subjects are assigned, in accordance with predetermined rules. A technology that is experimental is not considered safe or effective.

"Health care technology" refers to any discrete and identifiable regimen or modality used to diagnose or treat illness, prevent disease, maintain patient well-being, or facilitate the provision of health care services.

* * * * *

"National coverage decision" as it relates to health care technology means a statement of national policy under section 1862(a)(1) of the Act regarding the coverage status of a specific service made by HCFA. The term has the same meaning as "national coverage determination" that appears in section 1869(b)(3) of the Act.

* * * * *

"Safe" means a judgement of the acceptability of relative risk in a specified situation.

* * * * *

II. 42 CFR Part 405, Subpart C, is amended as set forth below:

PART 405—FEDERAL HEALTH INSURANCE FOR THE AGED AND DISABLED

Subpart C—Exclusions, Recovery of Overpayment, Liability of a Certifying Officer, Suspension of Payment, and Coverage Decisions

1. The authority citation for Subpart C is revised to read as follows:

Authority: Secs. 1102, 1862, 1871, and 1887 of the Social Security Act as amended (42 U.S.C. 1302, 1395y, 1395hh, and 1395xx).

2. The title of Subpart C is revised to read as follows: Subpart C—Exclusions, Recovery of Overpayment, Liability of a Certifying Officer, Suspension of Payment, and Coverage Decisions.

3. A new undersignated center leading and new §§ 405.380 through 405.383 are added to read as follows:

Criteria and Procedures For Making Medical Services Coverage Decisions That Relate To Health Care Technology

§ 405.380 Criteria for Medicare coverage of reasonable and necessary services.

(a) *General rules and process.* (1) For purposes of this section, the use of the word "services" means health care technologies as defined in $405.202.

(2) In the absence of statutory bars, a service is covered by Medicare (under section 1862(a)(1) of the Act) only if the service is reasonable and necessary for the diagnosis or treatment of illness or injuryor to improve the functioning of a malformed body member. In determining whether this coverage requirement is met, a service is considered resonable and necessary with reference to the following criteria if—

(i) The service if safe and effective.
(ii) The service is not experimental or investigational.
(iii) The service is cost-effective.
(iv) The service is appropriate.
(3) HCFA makes national coverage decisions in accordance with § 405.382. Medicare carriers, intermediaries HMOs, CMPs, and PROs make coverage decisions, in the absence of national coverage decisions by HCFA, in accordance with § 405.381.

(b) *Application of the criteria for making coverage decisions.* Among the criteria described in paragraph (a) of this section for making coverage decisions, safety and effectiveness are the key criteria. A service that is determined not to be safe and effective is not covered regardless of whether it satisfies the other criteria. A service that is determined to be safe and effective may or may not be covered depending on whether the other criteria are met. In determining whether the criteria are met, we will consider the following:

(1) *Safety and effectiveness.* (i) A service may be determined to be safe and effective if it is generally accepted in the medical community as safe and effective in the setting and for the condition for which it is used, or proven to be safe and effective based on authoritative evidence.

(ii) Even if a service is generally accepted in the medical community as safe and effective for some conditions, evidence may support a conclusion that the service has not been shown to be safe and effective for all conditions, and in these cased Medicare does not cover the service for those conditions.

(iii) To be considered safe and effective, a service must be furnished in a setting commensurate with the patient's medical needs and condition.

(iv) To be considered safe and effective, a service must be furnished by personnel who are qualified to furnished the service by virtue of education, training, experience, certification, or licensure.

(v) When evaluating breakthrough medical or surgical procedures, the standards for safety and effectiveness are less stringent. The more severe and life threatening the illness or injury process for which a particular treatment is applied, the more acceptable a relatively less safe technology may be when no safer or more effective technologies are available. In these cases, treatments whose clinical effectiveness has not been conclusively demonstrated may be determined to be reasonable and necessary if no safer or more effective treatments are available. However, in certain cases, we may provide for coverage but impose such limitations as facility or patient selection criteria, or a provision to later revise a coverage policy based on subsequent data collection.

(vi) Medical devices that have been approved for marketing by FDA on the basis of a premarket approval application (under 21 U.S.C. 360c) or a section 510(k) application submitted with clinical data are considered safe and effective for Medicare purposes when used for the conditions prescribed, recommended, or suggested in the labeling of the devices.

(vii) Drugs and biologicals approved for marketing by FDA are considered safe and effective for Medicare purposes when used for indications specified in their labeling.

(2) *Experimental or investigational considerations.* (i) A service that is furnished for research purposes in accordance with predetermined rules is considered experimental or investigational and is not covered by Medicare.

(ii) Except for certain drugs used in treating terminally ill cancer patients that are identified as Group C cancer drugs distributed by the National Cancer Institute, a drug or biological product that has not been approved under a new drug application for marketing by FDA is considered experimental or investigational by HCFA and is not covered by Medicare.

(iii) A medical device that has not been approved by FDA (under 21 U.S.C. 360k) is considered experimental or investigational and is not covered by Medicare.

(iv) A service, other than breakthrough medical or surgical procedures described in paragraph (b)(1)(v) of this section, that is not used widely because there is inadequate evidence of safety and effectiveness is considered experimental or investigational and is not covered by Medicare.

(3) *Cost-effectiveness.* A technology is considered cost-effective if it is—

(i) Very expensive to the program, but provides significant medical benefits not otherwise available;

(ii) Less costly and at least as effective as an alternative covered intervention;

(iii) More effective and more costly than a covered alternative, but the added benefit is significant enough to justify the added cost; and

(iv) Less effective and less costly than an existing alternative, but a viable alternative for some patients.

(4) *Appropriateness.* (i) A service is considered appropriate if it is furnished in a setting commensurate with the patient's medical needs.

(ii) A service is considered appropriate if it is furnished by qualified personnel.

§ 405.381 Procedures for Medicare carriers, intermediaries, HMOs, CMPs, and PROs in making coverage decisions.

(a) *Presence of a national coverage decision.* In their review of claims for payment, Medicare contractors (carriers, intermediaries, HMOs, CMPs, and PROs) are bound by the statute, regulations, and all HCFA administrative coverage issuances, including all national coverage decisions.

(b) *Absence of a national coverage decision.* In the absence of a national coverage decision, Medicare contractors determine whether the service in question appears to be reasonable and necessary and, therefore, covered in accordance with § 405.380(a)(2).

(c) *Referral of a national coverage decision.* If a Medicare contractor identifies a service for which there appears to be questions of possible national significance in accordance with § 405.382(a), but for which there is no applicable HCFA national coverage decision, the contractor must refer the service to HCFA for review in accordance with guidelines issued to them by HCFA.

(d) *PRO medical necessity determinations.* Medicare carriers and intermediaries are bound by medical necessity determinations of local PROs, under section 1154 of the Act and Part 466 of this title with respect to the application or use of a covered service in a particular case and with respect to services for which HCFA has not issued a national coverage decision.

(e) *Other considerations.* In applying the criteria for making coverage decisions described in § 405.380(a) in individual cases, Medicare carriers, intermediaries, HMOs, and CMPs may specifically consider, among other factors, whether the service is—

(1) Medically necessary in the particular case and whether the amount, duration and frequency of use or application of the service are medically appropriate;

(2) Furnished in accordance with accepted standards of medical practice; and

(3) Furnished in a setting appropriate to the patient's medical needs and condition (such as inpatient care at a hospital or SNF, outpatient care at a hospital or physician's office, or home care).

§ 405.382 HCFA procedures for making national coverage decisions.

This section sets forth the procedures and criteria that HCFA uses to implement section 1862(a)(1)(A) of the Act by making national coverage decisions regarding whether, and to what extent, specific medical services are covered under Medicare.

(a) *Identification of health care technologies.* HCFA may identify a specific health care technology for which a national coverage decision is made under this section if there are no statutory bars to coverage of the service and one or more of the following factors is present:

(1) The service is likely to be used in more than one region of the country.

(2) The service is likely to represent a significant expense to the Medicare program.

(3) The service has the potential for rapid diffusion and application.

(4) There is substantial disagreement among experts regarding the safety, effectiveness, or appropriateness involved in the use of a service.

(5) The service represents a significant advance in medical science.

(6) The service represents a new product, that is, a device, drug, or procedure for which there is no similar technology already covered under Medicare.

(7) The service has been subject to inconsistent coverage decisions by contractors or regional offices and a conflict can only be resolved by a national decision.

(8) The service that was "commonly accepted" by the medical profession has become outmoded or otherwise not in the public's interest.

(b) *HCFA Physicians Panel.* HCFA secures background information and expert opinion from qualified medical and professional sources regarding the criteria set forth in § 405.380. HCFA presents this information to the HCFA Physicians Panel for a recommendation regarding whether to refer the issue to PHS on an inquiry basis or for a full assessment, or whether to leave the coverage judgment to the discretion of the individual Medicare contractor. The Panel is an internal advisory organization, composed of physicians and other health professionals in HCFA's Central Office and counterparts from PHS, that periodically meets in closed session. Presentations by interested parties may be made prior to the Panel's closed meeting.

(c) *PHS process for inquiries and assessments.* When HCFA refers an issue to PHS as an—

(1) Inquiry, PHS researches the issue and forwards any available information on that issue to HCFA.

(2) Assessment, PHS researches the issue, publishes a notice in the **Federal Register** and seeks public comment, consults as necessary with professional individuals and organizations, performs the necessary analysis and assessment, formulates a recommendation as to Medicare coverage and a rationale for that recommendation, and forwards it to HCFA for a coverage decision, as needed.

(d) *HCFA decision regarding coverage.* After review of PHS' recommendation and any other material that HCFA deems appropriate, HCFA decides whether to issue a national coverage decision. If it decides to issue a decision, it announces that decision and the rationale for it under § 405.382(g).

(e) *Notification to requesting party.* HCFA notifies in writing any party that requests its final coverage decision and supporting rationale.

(f) *Right to reconsideration of a national coverage decision.* Any party may request a reconsideration of a determination that a national coverage decision is not warranted under paragraph (a) of this section.

(g) *HCFA announcement of national coverage decisions.* HCFA announces national coverage decisions that relate to health care technology through—

(1) Issuances in the Coverage Issues Manual (HCFA Pub. 6), other HCFA manuals to Medicare contractors, and as HCFA Rulings in the **Federal Register** (when appropriate); and

(2) Quarterly notices published in the **Federal Register** that list all Medicare manual instructions including national coverage decisions.

(h) *HCFA reevaluation of a national coverage decision.* (1) HCFA may reevaluate a service for which a national coverage decision has been made under this section. A reevaluation ordinarily occurs only when significant new information or evidence becomes available that was not available at the time the previous national coverage decision was made.

(2) If HCFA determines under paragraph (g)(1) of this section that coverage of a service, for which a national coverage decision has been made under this section, should be withdrawn, it publishes, in the **Federal Register**, for notice and comment that the service is no longer covered.

§ 405.383 Development of utilization review policy.

(a) When developing utilization review policy to identify claims for services that may need review for medical necessity prior to payment, Medicare carriers and intermediaries must solicit comments (and allow at least a 30-day comment period) from the local medical community (for example, State medical associations or specialty societies) on such factors as appropriate clinical indications and settings for the services under consideration. Upon receipt of comments, carriers and intermediaries must notify the local medical community 30 days before implementing the policy of their responses to the comments, the final policy, and the documentation requirements. The operational parameters of the policy however, will not be disclosed.

(b) Claims subject to medical review in accordance with utilization review policy may not be denied without review of all relevant information submitted with the claim.

(Catalog of Federal Domestic Assistance Program, No. 13.773, Medicare Hospital Insurance; No. 13.774, Medicare Supplementary Medical Insurance)

Dated: September 2, 1988.

William L. Roper,

Administrator, Health Care Financing Administration.

Approved: December 15, 1988.

Otis R. Bowen,

Secretary.

[FR Doc. 89-1695 Filed 1-27-89; 8:45 am]

BILLING CODE 4120-01-M

DEPARTMENT OF DEFENSE

48 CFR Parts 219, 226, and 252

Department of Defense Federal Acquisition Regulation Supplement; Implementation of Section 1207 of Pub. L. 99-661 and Section 806 of Pub. L. 100-180; Contracting With Small Disadvantaged Business Concerns

AGENCY: Department of Defense (DoD).

ACTION: Proposed rule (extension of comment period).

SUMMARY: The Defense Acquisition Regulatory (DAR) Council is considering a revision to the Defense Federal Acquisition Regulation Supplement (DFARS), Parts 219, 226, and 252, Contracting with Small Disadvantaged Business Concerns. DFARS coverage was published as a proposed rule for public comment on December 8, 1988 (53 FR 49577). The original date for receipt of public comments was January 9, 1989. The DAR Council has decided to extend the period for public comment on this proposed coverage until February 9,

1989 to accommodate the requests of several interested parties.

DATE: Comments should be received on or before February 9, 1989 to ensure their consideration in formulating a final rule. Please cite DAR Case 88–69 in all correspondence related to this issue.

ADDRESS: Interested parties should submit written comments to: Defense Acquisition Regulatory Council, ATTN: Mr. Charles W. Lloyd, Executive Secretary, DAR Council, ODASD(P)/DARS, c/o OASD (P&L) (M&RS), Room 3D139, The Pentagon, Washington, DC 20301–3062.

FOR FURTHER INFORMATION CONTACT: Mr. Charles W. Lloyd, Executive Secretary, DAR Council, (202) 697–7266.

Charles W. Lloyd,

Executive Secretary, Defense Acquisition Regulatory Council.

[FR Doc. 89–2012 Filed 1–27–89; 8:45 am]

BILLING CODE 3810–01–M

GENERAL SERVICES ADMINISTRATION

48 CFR Part 517

[GSAR Notice No. 5–236]

General Services Administration Acquisition Regulation; Multiyear Contracting and Options

AGENCY: Office of Acquisition Policy, GSA.

ACTION: Notice of proposed rulemaking.

SUMMARY: This notice invites comments on a proposed change to the General Services Administration Acquisition Regulation (GSAR) that would incorporate the substance of class deviations that authorize (1) not including FAR clauses 52.217–1 and 52.217–2 when issuing multiyear contracts, as authorized in the Federal Property and Administrative Services Act, for maintenance and repair of fixed equipment in federally-owned buildings, utility service or leases of real property, and (2) incorporating options in elevator/escalator maintenance contracts that provide an initial 3-year maintenance period with two options of 3 years each.

DATE: Comments are due in writing on or before March 1, 1989.

ADDRESS: Comments should be addressed to Ms. Marjorie Ashby, Office of GSA Acquisition Policy and Regulations (VP), 18th & F Streets, NW., Room 4026, Washington, DC 20405.

FOR FURTHER INFORMATION CONTACT: Shirley Scott, Office of GSA Acquisition Policy and Regulations, (202) 523–4765.

SUPPLEMENTARY INFORMATION:

A. Background

The Director, Office of Management and Budget, by memorandum December 14, 1984, exempted certain agency procurement regulations from Executive Order 12291. This exemption applies to this proposed rule.

B. Regulatory Flexibility Act

The GSA certifies that this document will not have a significant economic effect on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*). The proposed regulation would authorize not including a limitation of price and contractor obligation or cancellation of items clause in GSA multiyear contracts authorized by the Federal Property and Administrative Services Act. If the contract is no longer needed or funds are not available to complete the contract, the contract would be terminated for convenience and the contractor paid for services rendered in accordance with the termination clause in the contract. The proposed rule would also provide for award of 3-year elevator/escalator maintenance contracts that include two options of 3 years each (a total of 9 years). Contractors will be able to make greater commitment and investment in the maintenance contracts. Based on the above, no regulatory flexibility analysis has been prepared.

C. Paperwork Reduction Act

This proposed rule does not contain information collection requirements which require the approval of OMB under 44 U.S.C. 3501, et seq.

List of Subjects in 48 CFR Part 517

Government procurement.

It is proposed that 48 CFR Part 517 be amended as follows:

PART 517—SPECIAL CONTRACTING METHODS

1. The authority citation for 48 CFR Part 517 continues to read as follows:

Authority: 40 U.S.C. 486(c).

2. Subpart 517.1 is added to read as follows:

Subpart 517.1—Multiyear Contracting

517.105 Solicitation provisions and contract clauses.

Inclusion of FAR clauses 52.217–1, Limitations of Price and Contractor Obligations, and 52.217–2, Cancellation of Items, is not required for multiyear contracts authorized by the Federal Property and Administrative Services Act for maintenance and repair of fixed equipment in Federally-owned buildings and utility services.

Subpart 517.2—Options

3. Section 517.204 is added to read as follows:

517.204 Contracts.

When a repair and alterations contract consists primarily of the remodeling (refurbishing or replacement) of elevators/escalators in Federally-owned buildings, the contracting officer may include a 3-year requirement for maintenance of the elevator/escalator equipment to be replaced/remodeled. The contracting officer may also include up to two options of 3 years each for elevator/escalator maintenance (total of 9 years).

Dated: January 18, 1989.

Richard H. Hopf, III,

Associate Administrator for Acquisition Policy.

[FR Doc. 89–1916 Filed 1–27–89; 8:45 am]

BILLING CODE 6820–61–M

DEPARTMENT OF TRANSPORTATION

Federal Railroad Administration

49 CFR Ch. II

[FRA Docket No. RSCG–3; Notice No. 4]

Grade Crossing Signal System Safety

AGENCY: Federal Railroad Administration (FRA), Department of Transportation (DOT).

ACTION: Advance notice of proposed rulemaking; extension of comment deadline.

SUMMARY: On November 23, 1988, FRA published in the **Federal Register** an Advanced Notice of Proposed Rulemaking (ANPRM) (53 FR 47554) on grade crossing signal system safety and scheduled a public hearing to be held on December 14, 1988. Because all interested parties could not be heard in one day, the public hearing was extended to two days and rescheduled for December 19 and 20, 1988. The deadline for filing written comments in this proceeding remained January 4, 1989.

In responding to a request by the Association of American Railroads, FRA extended the comment period to January 17, 1989 for receipt of written comments in this proceeding.

The Brotherhood of Railway Signalmen has requested a further extension of 45 days in which to provide

additional information. In an effort to provide interested parties with as much time as possible to provide information in this proceeding, FRA is extending the comment period to February 1, 1989. No further extensions will be granted in this proceeding.

DATES: Written comments must be received by close of business on February 1, 1989. Comments received after that date will be considered to the extent possible without incurring additional delay or expense.

ADDRESSES: Written comments should be addressed to the Docket Clerk, Office of Chief Counsel, RCC–30, Room 8201, Federal Railroad Administration, 400 Seventh Street, SW, Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Mark Tessler, Office of Chief Counsel, Federal Railroad Administration, 400 Seventh Street, SW., Washington, DC 20590 (telephone: (202) 366–0628).

Issued in Washington, DC, on January 26, 1989.

John H. Riley,

Administrator.

[FR Doc. 89–2196 Filed 1–27–89; 8:45 am]

BILLING CODE 4910–06–M

Notices

Federal Register
Vol. 54, No. 18
Monday, January 30, 1989

This section of the FEDERAL REGISTER contains documents other than rules or proposed rules that are applicable to the public. Notices of hearings and investigations, committee meetings, agency decisions and rulings, delegations of authority, filing of petitions and applications and agency statements of organization and functions are examples of documents appearing in this section.

DEPARTMENT OF AGRICULTURE

Animal and Plant Health Inspection Service

[Docket No. 89-005]

Receipt of Permit Applications for Release into the Environment of Genetically Engineered Organisms

AGENCY: Animal and Plant Health Inspection Service, USDA.

ACTION: Notice.

SUMMARY: By this notice, we are advising the public that four applications for permits to release genetically engineered organisms into the environment are being reviewed by the Animal and Plant Health Inspection Service. The applications have been submitted in accordance with 7 CFR Part 340, which regulates the introduction of certain genetically engineered organisms and products.

FOR FURTHER INFORMATION CONTACT: Mary Petrie, Document Control Officer, Biotechnology, Biologics, and Environmental Protection, Biotechnology Permit Unit, Animal and Plant Health Inspection Service, U.S. Department of Agriculture, Room 847, Federal Building, 6505 Belcrest Road, Hyattsville, MD 20782, (301) 436-5874.

SUPPLEMENTARY INFORMATION: The regulations in 7 CFR Part 340, "Introduction of Organisms and Products Altered or Produced Through Genetic Engineering Which Are Plant Pests or Which There is Reason to Believe Are Plant Pests," require a person to obtain a permit before introducing (importing, moving interstate, or releasing into the environment) in the United States, certain genetically engineered organisms and products that are considered "regulated articles." The regulations set forth procedures for obtaining a permit for the release into the environment of a regulated article, and for obtaining a limited permit for the importation or interstate movement of a regulated article.

Pursuant to these regulations, APHIS has received the following applications to release genetically engineered organisms into the environment, which are being reviewed by the Agency:

Application No.	Date Received	Organism	Field Test Location
88-344-07	12-09-88	Genetically engineered tomato plants	California.
88-351-12	12-16-88	Genetically engineered	California.
88-351-13	12-16-88	Genetically engineered cotton plants	Mississippi.
88-355-01	12-20-88	Geneticaly engineered *Clavibacter xyli* subsp *cynodontis*	Nebraska, Minnesota, Illinois, Maryland.

Done at Washington, DC, this 24th day of January 1989.

James W. Glosser,

Administrator, Animal and Plant Health Inspection Service.

[FR Doc. 89-2053 Filed 1-27-89; 8:45 am]

BILLING CODE 3410-34-M

Soil Conservation Service

Finding of No Significant Impact; Perry County Airport RC&D Measure, OH

AGENCY: Soil Conservation Service, USDA.

ACTION: Notice of finding of no significant impact.

SUMMARY: Pursuant to section 102(2)(C) of the National Environmental Policy Act of 1969; the Council on Environmental Quality Guidelines (40 CFR Part 1500); and the Soil Conservation Service Guidelines (7 CFR Part 650); the Soil Conservation Service, U.S. Department of Agriculture, gives notice that an environmental impact statement is not being prepared for the Perry County Airport RC&D Measure, Perry County, Ohio.

FOR FURTHER INFORMATION CONTACT: Joseph C. Branco, State Conservationist, Soil Conservation Service, Federal Building, 200 North High Street, Room 522, Columbus, Ohio 43215, telephone: (614)-469-6962.

SUPPLEMENTARY INFORMATION: The environmental assessment of this federally assisted action indicates that the project will not cause significant local, regional, or national impact on the environment. As a result of these findings, Joseph C. Branco, State Conservationist, has determined that the preparation and review of an environmental impact statement is not needed for this project.

This measure concerns a plan for critical area treatment along 150 feet of the airport runway that is unstable. Planned works of improvement include the installation of an underground drain to intercept the seepage causing the landslip, regrading the slip area, and reseeding approximately one acre.

The Notice of Finding of No Significant Impact (FONSI) has been forwarded to the Environmental Protection Agency and to various federal, state, and local agencies and interested parties. A limited number of copies of the FONSI are available to fill single copy requests at the above address. Basic data developed during the environmental assessment are on file and may be reviewed by contacting Joseph C. Branco.

No administrative action on implementation of the proposal will be taken until 30 days after the date of this publication.

(This activity is listed in the Catalog of Federal Domestic Assistance under No. 10.901—Resource Conservation and Development Program—and is subject to the provisions of Executive Order 12372 which requires intergovernmental consultation with state and local officials.)

Joseph C. Branco,

State Conservationist.

January 19, 1989.

[FR Doc. 89-2056 Filed 1-27-89; 8:45 am]

BILLING CODE 3410-16-M

DEPARTMENT OF COMMERCE

Agency Form Under Review by the Office of Management and Budget (OMB)

DOC has submitted to OMB for clearance the following proposal for collection of information under the provisions of the Paperwork Reduction Act (44 U.S.C. Chapter 35).

Agency: Bureau of the Census
Title: 1990 Decennial Census—Reinterview and Reconciliation Questionnaire
Form Number: D–806
Type of Request: New
Burden: 77,927 hours
Number of Respondents: 1,558,556
AVG Hours Per Response: 3 minutes
Needs And Uses: Data from this survey are used by the Bureau of the Census to assure the quality of information collected during the 1990 Decennial Census of Population.
Affected Public: Individuals or households
Frequency: One-time
Respondent's Obligation: Mandatory
OMB Desk Officer: Francine Picoult, 395–7340

Copies of the above information collection proposal can be obtained by calling or writing DOC Clearance Officer, Edward Michals, (202) 377–3271, Department of Commerce, Room H6622, 14th and Constitution Avenue, NW., Washington, DC 20230.

Written comments and recommendations for the proposed information collection should be sent to Francine Picoult, OMB Desk Officer, Room 3208, New Executive Office Building, Washington, DC 20503.

Dated: January 24, 1989.

Edward Michals,

Departmental Clearance Officer, Office of Management and Organization.

[FR Doc. 89–2082 Filed 1–27–89; 8:45 am]

BILLING CODE 3510–07–M

National Institute of Standards and Technology

[Docket No. 90101–9001]

Delegation of Authority for Waivers for Federal Information Processing Standards (FIPS), and of Procedures for Waivers for FIPS

AGENCY: National Institute of Standards and Technology (NIST), Commerce.

ACTION: Notice of delegation of authority for waivers for FIPS, and of procedures for processing waivers for FIPS.

SUMMARY: Under section 111(d) of the Federal Property and Administrative Services Act of 1949 (40 U.S.C. 759(d) as amended by the Computer Security Act of 1987, the Secretary of Commerce has delegated to the heads of Executive Departments and Agencies the authority to waive FIPS. The Secretary's memorandum notifying departments and agencies of this action, and the procedures for processing waivers to FIPS are provided in this notice.

DATE: Effective November 14, 1988.

ADDRESS: National Institute of Standards and Technology, ATTN: FIPS Waiver Decisions, Building 225, Room B154, Gaithersburg, MD 20899.

FOR FURTHER INFORMATION CONTACT: Shirley Radack, (301) 975–2833.Q04

Date: January 24, 1989.

Raymond G. Kammer,

Acting Director.

November 14, 1988.

Memorandum to the Heads of Executive Departments and Agencies

Subject: Procedures for Waivers for the Federal Information Processing Standards (FIPS)

Under Section 111(d) of the Federal Property and Administrative Services Act of 1949 (40 U.S.C. 759(d)) as amended by the Computer Security Act of 1987, I am authorized to approve standards for Federal computer systems, and to determine the extent to which such standards, which are issued as Federal Information Processing Standards (FIPS), should be compulsory and binding.

It has been necessary from time to time to waive the use of these compulsory FIPS when compliance would adversely affect the accomplishment of an agency's mission or cause a major adverse financial impact on the agency which is not offset by Governmentwide savings. For some previously issued FIPS, I have already delegated to the heads of agencies the authority to waive the standards under certain conditions. However, for other FIPS I have retained the waiver authority.

The provisions of the Computer Security Act of 1987 clarify the conditions for the delegation of waiver authority to the heads of departments and agencies. I think that these officials are best able to make the decisions about the impact of standards on agency mission and costs, and that the efficiency of Government operations would be improved if these officials had the authority to waive standards when necessary.

Therefore, I hereby delegate to you the authority to waive, under the conditions specified in the attached procedures, previously issued and all subsequent FIPS that are compulsory for Federal agency use in the acquisition and management of computers and related telecommunications systems. You may redelegate this authority only to a senior official designated pursuant to section 3506(b) of title 44 of the U.S. Code. The procedures for waiving these previously issued mandatory FIPS are attached.

If you have any questions regarding this change, please contact James H. Burrows, Room B154 Technology Building; National Institute of Standards and Technology; Gaithersburg, MD 20899.

C. William Verity,

Secretary of Commerce.

Attachment

Procedures for Waivers for the Federal Information Processing Standards (FIPS)

Under certain exceptional circumstances, the heads of Federal departments and agencies may approve waivers to Federal Information Processing Standards (FIPS). The head of such agency may redelegate such authority only to a senior official designated pursuant to section 3506(b) of Title 44, U.S. Code. Waivers shall be granted only when:

a. Compliance with a standard would adversely affect the accomplishment of the mission of an operator of a Federal computer system, or

b. Cause a major adverse financial impact on the operator which is not offset by Governmentwide savings.

Agency heads may act upon a written waiver request containing the information detailed above. Agency heads may also act without a written waiver request when they determine that conditions for meeting the standard cannot be met. Agency heads may approve waivers only by a written decision which explains the basis on which the agency head made the required finding(s). A copy of each such decision, with procurement sensitive or classified portions clearly identified, shall be sent to: National Institute of Standards and Technology; ATTN: FIPS Waiver Decisions, Technology Building, Room B–154; Gaithersburg, MD 20899.

In addition, notice of each waiver granted and each delegation of authority to approve waivers shall be sent promptly to the Committee on Government Operations of the House of Representatives and the Committee on Governmental Affairs of the Senate and shall be published promptly in the **Federal Register.**

When the determination on a waiver applies to the procurement of equipment and/or services, a notice of the waiver determination must be published in the *Commerce Business Daily* as a part of the notice of solicitation for offers of an acquisition or, if the waiver determination is made after that notice is published, by amendment to such notice.

A copy of the waiver, any supporting documents, the document approving the waiver and any supporting and accompanying documents, with such deletions as the agency is authorized and decides to make under 5 U.S.C. Sec. 552(b), shall be part of the procurement documentation and retained by the agency.

[FR Doc. 89–2035 Filed 1–27–89; 8:45 am]

BILLING CODE 3510–CN–M

Malcolm Baldrige National Quality Award's Panel of Judges; Public Meeting

AGENCY: National Institute for Standards and Technology, DoC.

ACTION: Notice of public meeting.

SUMMARY: Pursuant to the Federal Advisory Committee Act, 5 U.S.C. App., notice is hereby given that there will be a meeting of the Panel of Judges of the Malcolm Baldrige National Quality Award from Thursday, February 9, through Friday, February 10, 1989. The Panel of Judges is composed of nine members prominent in the field of quality management and appointed by the Secretary of Commerce. The purpose of this meeting is to review criteria and processes for the 1989 Award.

DATES: The meeting will convene February 9, 1989 at 8:30 a.m. and adjourn at approximately 1:00 p.m. on February 10, 1989.

ADDRESS: The meeting will be held at the Radisson Hotel, 711 Northwest 72nd Avenue, Miami, Florida 33126.

FOR FURTHER INFORMATION CONTACT: Dr. Curt W. Reimann, Associate Director for Quality Programs, National Institute for Standards and Technology, Gaithersburg, Maryland 20899, telephone number (301) 975–2036.

SUPPLEMENTARY INFORMATION: The public is invited to attend this meeting and the Chairperson will entertain comments or questions at an appropriate time during the meeting. Any person wishing to attend the meeting should inform Curt Reimann at the address shown above.

Ray Kammer,

Acting Director.

Date: January 23, 1989.

[FR Doc. 89–2036 Filed 1–27–89; 8:45 am]

BILLING CODE 3510–13–M

National Oceanic and Atmospheric Administration

Mid-Atlantic Fishery Management Council; Public Meeting

AGENCY: National Marine Fisheries Service, NOAA, Commerce.

The Mid-Atlantic Fishery Management Council will convene a public meeting on February 15, 1989, at 1 p.m., and adjourn in the afternoon on February 16 at the Tidewater Inn, Dover Street, Easton, MD, to discuss proposed amendments to the Magnuson Fishery Conservation and Management Act, as well to discuss other fishery management and administrative matters. The public meeting may be lengthened or shortened depending upon progress of the agenda. The Council may convene a closed session (not open to the public) to discuss personnel and/or national security matters.

For further information, contact John C. Bryson, Executive Director, Mid-Atlantic Fishery Management Council, 300 South New Street, Room 2115, Federal Building, Dover, DE 19901–6790; telephone: (302) 674–2331.

Date: January 24, 1989.

Joe P. Clem,

Acting Director, Office of Fisheries Conservation and Management, National Marine Fisheries Service.

[FR Doc. 89–2070 Filed 1–27–89; 8:45 am]

BILLING CODE 3510–22–M

South Atlantic Fishery Management Council; Public Meeting

AGENCY: National Marine Fisheries Service, NOAA, Commerce.

The South Atlantic Fishery Management Council and its Committees will convene public meetings at the Jekyll Island Club, 371 Riverview Drive, Jekyll Island, GA, February 21–24, 1989, to discuss shrimp, scallops, spiny lobster, snapper/grouper, mackerel, and other fishery management business. Also, the Council's Executive, Finance, Statement of Organization, Practices, and Procedures (SOPPs), and Law Enforcement Committees will convene public meetings; the Council's Personnel Committee will convene a closed session (not open to the public).

A detailed agenda will be available to the public on or about February 8, 1989. For further information contact Carrie R. F. Knight, Public Information Specialist, South Atlantic Fishery Management Council, One Southpark Circle, Suite 306, Charleston, SC 29407; telephone: (803) 571–4366.

Date: January 24, 1989.

Joe P. Clem,

Acting Director, Office of Fisheries Conservation and Management, National Marine Fisheries Service.

[FR Doc. 89–2071 Filed 1–27–89; 8:45 am]

BILLING CODE 3510–22–M

DEPARTMENT OF EDUCATION

[CFDA No. 84.031G]

Notice Inviting Applications for New Awards Under the Endowment Challenge Grant Program for Fiscal Year 1989

Purpose: Provide grants to eligible institutions of higher education so they can establish or increase their endowment funds.

Eligibility: Potential applicants, including current grantees under any of the programs authorized by Title III of the Higher Education Act, are advised that a notice was published in the **Federal Register** on December 19, 1988, 53 FR 50989–50990, informing interested parties how to be designated as eligible to receive Endowment Challenge Grant funds.

Deadline For Transmittal Of Applications: June 9, 1989.

Applications Available: April 11, 1989.

Available Funds: $12,696 million.

Estimated Range of Awards: Regular Grants: $50,000–$500,000. Large Grants: Over $1,000,000.

Estimated Average Size Awards: Regular Grants: $256,000. Large Grants: $1,744,000.

Estimated Number of Awards: 20 to 30.

Project Period: 240 months.

Fundraising Period: 18 months.

Applicable Regulations: The Endowment Challenge Grant Program Regulations, 34 CFR Part 628.

For Applications Or Information Contact: Ms. Anne Price-Collins, Chief, Challenge Grant and Endowment Branch, U.S. Department of Education, 400 Maryland Avenue SW., Room 3042, ROB–3, Washington, DC 20202, Telephone: (202) 732–3335. Applications will be sent to those institutions designated as eligible under the Title III Programs.

Program Authority: 20 U.S.C. 1065a.

Dated: January 18, 1989.

Kenneth D. Whitehead,

Assistant Secretary for Postsecondary Education.

[FR Doc. 89–2052 Filed 1–27–89; 8:45 am]

BILLING CODE 4000–01–M

DEPARTMENT OF ENERGY

Economic Regulatory Administration

[ERA Docket No. 88–65–NG]

Hadson Gas Systems, Inc.; Order Extending Blanket Authorization to Import Natural Gas; Correction

AGENCY: Economic Regulatory Administration, DOE.

ACTION: Correction of docket number.

SUMMARY: The **Federal Register** notice of the Order issued in this docket published January 9, 1989, 54 FR 660, incorrectly referenced the docket number. The **Federal Register** notice should be changed to read: The order issued in ERA Docket 88–65–NG authorizes Hadson Gas Systems, Inc. to import up to 50 Bcf of Canadian natural gas for two years beginning March 3, 1989.

Issued in Washington, DC, January 25, 1989.

Anthony Como,

Acting Director, Office of Fuels Programs, Economic Regulatory Administration.

[FR Doc. 89-2097 Filed 1-27-89; 8:45 am]

BILLING CODE 6450-01-M

[ERA Docket No. 88-43-NG]

Tennessee Gas Pipeline Co.; Order Amending an Authorization To Import Natural Gas from Canada and Granting Interventions

AGENCY: Economic Regulatory Administration, DOE.

ACTION: Notice of order amending authorization to import natural gas.

SUMMARY: The Economic Regulatory Administration (ERA) of the Department of Energy (DOE) gives notice that it has issued an order amending an existing import authorization previously granted to Tennessee Gas Pipeline Company (Tennessee) in DOE/ERA Opinion and Order No. 131, (Order 131) issued June 19, 1986, to extend, for two years, beginning on the date of first delivery after the issuance date of the order, the blanket-type import authority that is a part of Tennessee's negotiated long-term gas supply contact for which Order Nos. 131 granted an import authorization term ending October 31, 2000.

A copy of this order is available for inspection and copying in the Natural Gas Division Docket Room, 3F-056, Forrestal Building, 1000 Independence Avenue, SW., Washington, DC 20585, (202) 586-9478. The docket room is open between the hours of 8:00 a.m. and 4:30 p.m., Monday through Friday, except Federal Holidays.

Issued in Washington, DC, January 19, 1989.

Constance L. Buckley,

Acting Director, Office of Fuels Programs, Economic Regulatory Administration.

[FR Doc. 89-2098 Filed 1-27-89; 8:45 am]

BILLING CODE 6450-01-M

Federal Energy Regulatory Commission

[Docket Nos. CP89-628-000, et al.]

Paiute Pipeline Co., et al.; Natural Gas Certificate Filings

Take notice that the following filings have been made with the Commission:

1. Paiute Pipeline Company

[Docket No. CP89-628-000]

January 19, 1989.

Take notice that on January 17, 1989, Paiute Pipeline Company (Paiute), P.O. Box 94197, Las Vegas, Nevada 89193-4197, filed in Docket No. CP89-628-000 a request pursuant to § 157.205 of the Regulations under the Natural Gas Act (18 CFR 157.205) for authorization to transport natural gas on behalf of Harvey's Resort Hotel/Casino (Harvey's Resort) under the authorization issued in Docket No. CP87-809-000 pursuant to section 7 of the Natural Gas Act, all as more fully set forth in the request which is on file with the Commission and open to public inspection.

Paiute would perform the proposed transportation service for Harvey's Restort, a end-user of natural gas, pursuant to a transportation service agreement dated November 14, 1988, under Paiute's Rate Schedule IT-1. It is stated that the term of the service agreement is from November 14, 1988, and shall continue in effect for a period extending for a primary term to and including October 31, 1991, and month to month thereafter. Paiute proposes to transport on a peak day up to 580 MMBtu; on an average day 300 MMBtu; and on an annual basis 109,500 MMBtu of natural gas for Harvey's Resort. Paiute proposes to receive the gas for Harvey's Resort account at the point of receipt at the interconnection between the facilities of Paiute and Northwest Pipeline Corporation at the Idaho-Nevada border. Paiute would transport and redeliver the gas to Southwest Gas Corporation-Northern Nevada (Southwest), a local distribution company, for the account of Harvey's Resort at the Stateline City Gas No. 1 delivery point located in Douglas County, Nevada. It is stated that the natural gas transported under the transportation service agreement may be received on behalf of Harvey's Resort or any local distribution company or affiliate of Harvey's Resort which has an appropriate contractual arrangement with Harvey's Resort. Paiute understands that Harvey's Resort has entered into a service agreement with Southeast. Paiute asserts that no new facilities are required to implement the proposed service.

It is explained that the proposed service is currently being performed pursuant to the 120-day self-implementing provision of § 284.223(a)(1) of the Regulations. Paiute commenced such self-implementing service on November 17, 1988, as reported in Docket No. ST89-1360-000.

Comment date: March 6, 1989, in accordance with Standard Paragraph G at the end of this notice.

2. Northwest Pipeline Corporation

[Docket No. CP89-644-000]

January 19, 1989.

Take notice that on January 17, 1989, Northwest Pipeline Corporation (Northwest), 295 Chipeta Way, Salt Lake City, Utah 84108, filed in Docket No. CP89-644-000 a request pursuant to §§ 157.205 and 284.223 of the Commission's Regulations for authorization to transport natural gas for the account of Natural Gas Clearinghouse, Inc. (NGCH), a marketer of natural gas, under Northwest's blanket certificate issued in Docket No. CP86-578-000 pursuant to section 7 of the Natural Gas Act, all as more fully set forth in the request which is on file with the Commission and open to public inspection.

Northwest proposes to transport on an interruptible basis up to 200,000 MMBtu of natural gas on a peak day, 2,000 MMBtu on an average day and 730,000 MMBtu on an annual basis for NGCH. Northwest states that it would perform the transportation service for NGCH under Northwest's Rate Schedule TI-1 for a primary term continuing until October 31, 1990, and continue on a monthly basis thereafter. Northwest indicates that it would transport the gas from various existing receipt points on Northwest's system in Rio Blanco and La Plata Counties, Colorado; San Juan and Rio Arriba Counties, New Mexico; and Lincoln and Sweetwater Counties, Wyoming to various delivery points in the states of Colorado, Utah, and Wyoming.

It is explained that the service has commenced under the automatic authorization provisions of § 284.223 of the Commission's Regulations as reported in Docket No. ST89-1597. Northwest indicates that no new facilities would be necessary to provide the subject service.

Comment date: March 6, 1989, in accordance with Standard Paragraph G at the end of this notice.

3. Tennessee Gas Pipeline Company

[Docket No. CP89-642-000]

January 19, 1989.

Take notice that on January 17, 1989, Tennessee Gas Pipeline Company (Tennessee), P.O. Box 2511, Houston, Texas 77252, filed in Docket No. CP89-642-000 a request pursuant to § 157.205 of the Commission's Regulations under the Natural Gas Act (18 CFR 157.205) for authorization to provide a

transportation service for O & R Energy Development, Inc. (O & R), a marketer, under the blanket certificate issued in Docket No. CP87–115–000 on June 18, 1987, pursuant to section 7 of the Natural Gas Act, all as more fully set forth in the request that is on file with the Commission and open to public inspection.

Tennessee states that pursuant to a transportation agreement dated October 18, 1988, as amended, under its Rate Schedule IT, it proposes to transport up to 50,000 dekatherms (dt) per day equivalent of natural gas for O & R. Tennessee states that it would transport the gas from receipt points located in the states of Louisiana, Mississippi, New York, Ohio, Pennsylvania, Texas, and West Virginia, and deliver such gas to various points off Tennessee's system, points located in multiple states.

Tennessee advises that service under § 284.223(a) commenced November 1, 1988, as reported in Docket No. ST89–1074 (filed December 1, 1988). Tennessee further advises that it would transport 50,000 dt on an average day and 18,250,000 dt annually.

Comment date: March 6, 1989, in accordance with Standard Paragraph G at the end of this notice.

4. United Gas Pipe Line Company

[Docket No. CP89–616–000]

January 19, 1989.

Take notice that on January 13, 1989, United Gas Pipe Line Company (United), P.O. Box 1478, Houston, Texas 77251–1478, filed in Docket No. CP89–616–000, a request pursuant to §§ 157.205 and 284.223 of the Commission's Regulations under the Natural Gas Act for authorization to transport natural gas under its blanket certificate issued in Docket No. CP88–6–000, pursuant to section 7 of the Natural Gas Act, for Victoria Gas Corporation (Victoria), a marketer, all as more fully set forth in the request which is on file with the Commission and open to public inspection.

United proposes to transport up to a maximum of 103,000 MMBtu of natural gas per day for Victoria from specific receipt points in various states to specific delivery points in various states. United anticipates transporting up to 103,000 MMBtu on a peak day and average day, and 37,595,000 MMBtu annually for Victoria. United explains that service commenced November 21, 1988, under § 284.223(a) of the Commission's Regulations, as reported in Docket No. ST89–1492.

Comment date: March 6, 1989, in accordance with Standard Paragraph G at the end of this notice.

5. Paiute Pipeline Company

[Docket No. CP89–623–000]

January 23, 1989.

Take notice that on January 17, 1989, Paiute Pipeline Company (Paiute), P.O. Box 94197, Las Vegas, Nevada 89193–4197, filed in Docket No. CP89–623–000 a request pursuant to § 157.205 of the Commission's Regulations under the Natural Gas Act (18 CFR 157.205) for authorization to provide an interruptible transportation service for Gold Fields Operating Co.—Chimney Creek, a subsidiary of Gold Fields Mining Corporation (Gold Fields), an end-user, under the blanket certificate issued in Docket No. CP87–309–000 on August 31, 1988, pursuant to section 7 of the Natural Gas Act, all as more fully set forth in the request that is on file with the Commission and open to public inspection.

Paiute states that pursuant to a transportation agreement dated November 14, 1988, unders its Rate Schedule IT–1, it proposes to transport up to 1,250 MMBtu per day equivalent of natural gas for Gold Fields. Paiute states that it would receive the gas at the interconnection between Paiute and Northwest Pipeline Corporation at the Idaho-Nevada border and would transport and redeliver the gas at the Gold Fields delivery point in Humboldt County, Nevada.

Paiute advises that service under § 284.223(a) commenced November 7, 1988, as reported in Docket No. ST89–1359 (filed December 19, 1988). Paiute estimates that it would transport 750 MMBtu on an average day and 275,000 MMBtu annually.

Comment date: March 9, 1989, in accordance with Standard Paragraph G at the end of this notice.

6. Williams Natural Gas Company

[Docket No. CP89–613–000]

January 23, 1989.

Take notice that on January 13, 1989, Williams Natural Gas Company (WNG), P.O. Box 3288, Tulsa, Oklahoma 74101, filed in Docket No. CP89–613–000 a request pursuant to § 157.205 of the Commission's Regulations for authorization to provide transportation service on behalf of EnMark Gas Corporation (EnMark), under WNG's blanket certificate issued in Docket No. CP86–631–000, pursuant to section 7 of the Natural Gas Act, all as more fully set forth in the application which is on file with the Commission and open to public inspection.

WNG requests authorization to transport, on an interruptible basis, up to a maximum of 186,500 MMBtu of natural gas per day for EnMark from receipt points located in Kansas, Oklahoma and Wyoming to delivery points located in Kansas and Texas. WNG anticipates transporting, on an average day 50,000 MMBtu and an annual volume of 18,250,000 MMBtu.

WNG states that the transportation of natural gas for EnMark commenced December 1, 1988, as reported in Docket No. ST89–1565–000, for a 120-day period pursuant to § 284.223(a) of the Commission's Regulations and the blanket certifiate issued to WNG in Docket No. CP86–631–000.

Comment date: March 9, 1989, in accordance with Standard Paragraph G at the end of this notice.

7. Paiute Pipeline Company

[Docket No. CP89–627–000]

January 23, 1989.

Take notice that on January 17, 1989, Paiute Pipeline Company (Paiute), P.O. Box 94197, Las Vegas, Nevada 89193–4197, filed in Docket No. CP89–627–000 a request pursuant to § 157.205 of the Commission's Regulations under the Natural Gas Act (18 CFR 157.205) for authorization to provide an interruptible transportation service for Sierra Pacific Power Company (Sierra Pacific), an end-user and local distribution company, under the blanket certificate issued in Docket No. CP87–309–000 on August 31, 1988, pursuant to section 7 of the Natural Gas Act, all as more fully set forth in the request that is on file with the Commission and open to public inspection.

Paiute states that pursuant to a transportation agreement dated November 14, 1988, under its Rate Schedule IT–1, it proposes to transport up to 90,000 MMBtu per day equivalent of natural gas for Sierra Pacific. Paiute states that it would receive the gas at the interconnection between Paiute and Northwest Pipeline Corporation at the Idaho-Nevada border and would transport and deliver the gas to Sierra Pacific at seven delivery points identified in the transportation agreement.

Paiute advises that service under § 284.223(a) commenced November 17, 1988, as reported in Docket No. ST89–1362 (filed December 19, 1988). Paiute estimates that it would transport 10,700 MMBtu on an average day and 3,900,000 MMBtu annually.

Comment date: March 9, 1989, in accordance with Standard Paragraph G at the end of this notice.

8. United Gas Pipe Line Company

[Docket No. CP89-615-000]

January 23, 1989.

Take notice that on January 13, 1989, United Gas Pipe Line Company (United), P.O. Box 1478, Houston, Texas 77251-1478, filed a request pursuant to §§ 157.205 and 284.223 of the Commission's Regulations in Docket No. CP89-615-000, to provide interruptible transportation service on behalf of Loutex Energy, Inc., a producer and marketer of natural gas, under United's blanket certificate issued in Docket No. CP88-6-000 pursuant to section 7 of the Natural Gas Act, all as more fully set forth in the request on file with the Commission and open to public inspection.

United states that the Interruptible Gas Transportation Agreement T1-21-1970, dated November 17, 1988, proposes to transport a maximum daily quantity of 480,236 MMBtu and that service commenced December 13, 1988, as reported in Docket No. ST89-1497, pursuant to § 284.223(a) of the Commission's Regulations.

Comment date: March 9, 1989, in accordance with Standard Paragraph G at the end of this notice.

9. Paiute Pipeline Company

[Docket No. CP89-625-000]

January 23, 1989.

Take notice that on January 17, 1989, Paiute Pipeline Company (Paiute), P.O. Box 94197, Las Vegas, Nevada 89193-4197, filed in Docket No. CP89-625-000 a request pursuant to § 157.205 of the Commission's Regulations under the Natural Gas Act (18 CFR 157.205) for authorization to provide an interruptible transportation service for United Engine & Machine Company (United), an end-user, under the blanket certificate issued in Docket No. CP87-309-000 on August 31, 1988, pursuant to section 7 of the Natural Gas Act, all as more fully set forth in the request that is on file with the Commission and open to public inspection.

Paiute states that pursuant to a transportation agreement dated November 14, 1988, under its Rate Schedule IT-1, it proposes to transport up to 400 MMBtu per day equivalent of natural gas for United. Paiute states that it would receive the gas at the interconnection between Paiute and Northwest Pipeline Corporation at the Idaho-Nevada border and would transport and deliver the gas to Southwest Gas Corporation-Northern Nevada (a local distribution company) at the Carson City, Nevada, Gate No. 3 delivery point for the account of United.

Paiute advises that service under § 284.223(a) commenced November 17, 1988, as reported in Docket No. ST89-1357 (filed December 19, 1988). Paiute estimates that it would transport 285 MMBtu on an average day and 103,000 MMBtu annually.

Comment date: March 9, 1989, in accordance with Standard Paragraph G at the end of this notice.

10. Tennessee Gas Pipeline Company

[Docket No. CP89-601-000]

January 23, 1989.

Take notice that on January 12, 1989, Tennessee Gas Pipeline Company (Tennessee), P.O. Box 2511, Houston, Texas 77252, filed in Docket No. CP89-601-000 a request, pursuant to § 157.205 of the Commission's Regulations under the Natural Gas Act (18 CFR 157.205), for authorization to provide a transportation service for Seagull Marketing Services, Inc. (Seagull), a marketer, under Tennessee's blanket certificate issued in Docket No. CP87-115-000, pursuant to section 7 of the Natural Gas Act, all as more fully set forth in the request on file with the Commission and open to public inspection.

Tennessee states that pursuant to a transportation agreement dated November 28, 1988, as amended November 29, 1988, it proposes to transport natural gas for Seagull, on an interruptible basis, from receipt points located in Texas, Louisiana, Mississippi and offshore Louisiana to delivery points located at (1) Ripley, Tappah County, Mississippi, and (2) three points of interconnection with Texas Eastern Transmission Corporation in Tallula, Issaquena County, Mississippi; Bloom, Scioto County, Ohio; and Colbert, Colbert County, Alabama. Tennessee anticipates transporting 250,000 Dt. on both average and peak days, which would result in 91,250,000 Dt. being transported annually. Tennessee advises that the transportation service commenced on December 2, 1988, as reported in Docket No. ST89-1499, pursuant to § 284.223(a)(1) of the Commission's Regulations.

Comment date: March 9, 1989, in accordance with Standard Paragraph G at the end of this notice.

11. Kerr-McGee Corporation

[Docket No. CI78-47-001]

January 23, 1989.

Take notice that on December 23, 1988, Kerr-McGee Corporation (Kerr-McGee) of P.O. Box 25861, Oklahoma City, Oklahoma 73125, filed an application pursuant to section 7 of the Natural Gas Act and the Federal Energy Regulatory Commission's (Commission) regulations thereunder requesting that the Commission amend its certificate in Docket No, CI78-47 to add the acreage from the ten other certificates listed in the Appendix and delete the acreage from those ten other certificates, all as more fully set forth in the application which is on file with the Commission and open for public inspection.

Kerr-McGee states that it has recently entered into a settlement with Natural Gas Pipeline Company of America (NGPL). As part of the settlement, Kerr-McGee and NGPL have terminated all of their contracts and entered into a new gas purchase agreement dated December 1, 1988, that supersedes all prior contracts. Kerr-McGee requests that this new gas purchase agreement be accepted as a supplement to its Rate Schedule No. 149 and that its existing NGPL rate schedules listed in the Appendix be consolidated into Rate Schedule No. 149.

Comment date: February 9, 1989, in accordance with Standard Paragraph J at the end of this notice.

Appendix

Rate Schedule No.	Docket No.	Location
46	G-11020	S.E. Camrick Field, Texas County, Oklahoma.
86	CI65-605	Indian Basin, Eddy County, New Mexico.
132	CI76-6	West Cameron Block 543, Offshore Louisiana.
149	CI78-47	South Marsh Island Block 142 Field, Offshore Louisiana.
150	CI78-48	East Cameron Block 34, Offshore Louisiana.
169	CI80-144	Vermilion Blocks 276 and 287, Offshore Louisiana.
173	CI80-459	High Island A-414, Offshore Texas.
174	CI80-508	South Marsh Island 143-B, Offshore Louisiana.
175	CI80-509	West Cameron Blocks 115 and 116, Offshore Louisiana.
176	CI80-510	South Marsh Island 265, Offshore Louisiana.
191	CI85-151	Vermilion 277, Offshore Louisiana.

12. Paiute Pipeline Company

[Docket No. Cp89-622-000]

January 23, 1989.

Take notice that on January 17, 1989, Paiute Pipeline Company (Paiute), P.O. Box 94197, Las Vegas, Nevada 89193-4197, filed in Docket No. CP89-622-000 a request pursuant to § 157.205 of the Commission's Regulations under the Natural Gas Act (18 CFR 157.205) for

authorization to transport natural gas on behalf of Harrah's Club d/b/a Harrah's Lake Tahoe Resort (Harrah's), an end user, under its blanket authorization issued in Docket No. CP87–309–000 pursuant to section 7 of the Natural Gas Act, all as more fully set forth in the request which is on file with the Commission and open to public inspection.

Paiute would perform the proposed interruptible transportation service for Harrah's, pursuant to an interruptible transportation service agreement dated November 14, 1988 (Agreement No. I4). The transportation agreement is effective for a primary term to and including October 31, 1991, and shall continue month to month thereafter unless terminated by thirty days written notice by either party. Paiute proposes to transport approximately 720 MMBtu of natural gas on a peak day; on an average day approximately 370 MMBtu; and on an annual basis 134,000 MMBtu of natural gas for Harrah's. Paiute proposes to receive the subject gas at the interconnection between the facilities of Paiute and Northwest Pipeline Corporation at the Idaho-Nevada border. Paiute will transport and redeliver the gas to Southwest Gas Corporation-Northern Nevada , a local distribution company, for the account of Harrah's at the Stateline City Gate No. 1 delivery point located in Douglas County, Nevada.

It is explained that the proposed service is currently being performed pursuant to the 120-day self implementing provision of § 284.223(a)(1) of the Commission's Regulations. Paiute commenced such self-implementing service on November 17, 1988, as reported in Docket No. ST89–1363–000.

Comment date: March 9, 1989, in accordance with Standard Paragraph G at the end of this notice.

13. Algonquin Gas Transmission Company

[Docket No. CP88–167–001]

January 23, 1989.

Take notice that on January 12, 1989, Algonquin Gas Transmission Company (Algonquin), 1284 Soldiers Field Road, Boston, Massachusetts 02135, filed an application in Docket No. CP88–167–001, pursuant to section 7 of the Natural Gas Act and the rules and regulations of the Federal Energy Regulatory Commission (Commission), so as to amend its application for a certificate of public convenience and necessity authorizing Algonquin to (1) render a transportation service for a primary term of twenty years pursuant to proposed Rate Schedule X–34 to be filed as part of Algonquin's FERC Gas Tariff Original Volume No. 2 and (2) construct and operate certain required facilities, all, as more fully set forth in the request on file with the Commission and open to public inspection.

Algonquin states that its original application and this amendment involve transportation of natural gas to be used as fuel at the Town of Braintree Electric Light Department (Braintree) 96 Megawatt Potter Electric Generating Station.

More Specifically, Algonquin seeks authorization in this Amendment to:

(1) Provide interruptible transportation service to Boston Gas Company ("Boston Gas") up to 21,660 MMBtu per day under proposed Rate Schedule X–34 in lieu of firm transportation service originally proposed to be provided to Braintree.

(2) Establish a new delivery point to Boston Gas in lieu of a delivery point to Braintree in the vicinity of Braintree's Potter Generating Station. Such delivery point is at the same location as originally proposed for Braintree.

(3) Construct and operate 2.2 miles of 16-inch pipeline and a meter station at the new delivery point in lieu of more extensive facilities originally proposed.

The changes in service and facilities proposed in this amendment result from Braintree's decision to purchase its supply from Boston Gas instead of finalizing its agreement to purchase its supply of natural gas from Connecticut Natural Gas Corporation as originally proposed. The change in the supply receipt point and the change from firm to interruptible transportation service by Algonquin results in:

Substantial reduction in facility requirements.

Substantial reduction in facility cost.

Lower rates ultimately paid by Braintree. The lower rate benefit is offset to some extent by the reduction in supply availability to Braintree compared to the original proposal.

Comment date: February 13, 1989, in accordance with the first subparagraph of Standard Paragraph F at the end of this notice.

14. Questar Pipeline Company

[Docket No. CP89–621–000]

January 23, 1989.

Take notice that on January 17, 1989, Questar Pipeline Company (Questar), 79 South State Street, P.O. Box 11450, Salt Lake City, Utah 84147, filed in Docket No. CP89–621–000 a request pursuant to §§ 157.205 and 284.223 of the Commission's Regulations under the Natural Gas Act for authorization to transport natural gas under the blanket certificate issued in Docket No. CP88–650–000 pursuant to section 7 of the Natural Gas Act, all as more fully set forth in the request on file with the Commission and open to public inspection.

Questar proposes to transport natural gas on an interruptible basis for Westinghouse Electric Corporation (Westinghouse). Questar explains that service commenced December 15, 1988, under § 284.223(a) of the Commission's Regulations. Questar explains that the peak day quantity would be 1,000 MMBtu, the average daily quantity would be 655 MMBtu, and that the annual quantity would be 239,075 MMBtu. Questar explains that it would recieve natural gas for Westinghouse's account at receipt points located in Utah and Wyoming. United states that it would redeliver the gas at delivery points located in Utah.

Comment date: March 9, 1989, in accordance with Standard Paragraph G at the end of this notice.

15. Natural Gas Pipeline Company

[Docket No. CP89–630–000]

January 23, 1989.

Take notice that on January 17, 1989, Natural Gas Pipeline Company of America (Natural), 701 East 22nd Street, Lombard, Illinois 60148, filed in Docket No. CP89–630–000 a request pursuant to §§ 157.205 and 284.223(b) of the Commission's Regulations under the Natural Gas Act for authorization to transport natural gas on an interruptible basis for Mitchell Marketing Company (Mitchell), a marketer of natural gas, under its blanket certificate issued in Docket No. CP86–582–000 pursuant to section 7 of the Natural Gas Act, all as more fully set forth in the request on file with the Commission and open to public inspection.

Natural states that it proposes to transport natural gas for Mitchell between a point of receipt in Texas and numerous delivery points located in Texas and Illinois.

Natural further states that the maximum daily, average and annual quantities that it would transport for Mitchell would be 20,000 MMBtu equivalent of natural gas (plus any additional quantities accepted pursuant to the overrun provisions of Natural's Rate Schedule ITS), 15,000 MMBtu equivalent of natural gas and 5,475,000 MMBtu equivalent of natural gas, respectively.

Natural indicates that in a filing made with the Commission on January 17, 1989, it reported that transportation service for Mitchell had begun on

December 1, 1988 under the 120-day automatic authorization provisions of § 284.223(a).

Comment date: March 9, 1989, in accordance with Standard Paragraph G at the end of this notice.

16. Texas Eastern Transmission Corporation

[Docket No. CP89-599-000]

January 23, 1989.

Take notice that on January 12, 1989 Texas Eastern Transmission Corporation (TETCO), Post Office Box 2521, Houston, Texas 77252, filed in Docket No. CP89-599-000 a request pursuant to §§ 157.205 and 157.212 of the Federal Energy Regulatory Commission's (Commission) Regulations under the Natural Gas Act and TETCO's blanket certificate issued in Docket No. CP82-535-000 pursuant to section 7 of the Natural Gas Act for authorization to construct a new sales measuring station (M&R Station No. 2672) and to establish such measuring station as an additional point of delivery under its existing Rate Schedule SGS and I-B Service Agreement with the City of Lebanon, Tennessee (Lebanon), all as more fully set forth in the application on file with the Commission and open to public inspection.

TETCO states that the proposed new point of delivery to Lebanon will be located in Wilson County, Tennessee. TETCO will construct, own and operate the new measuring station. TETCO further states that the estimated cost of the station is $94,745 and that Lebanon will reimburse TETCO for the total cost of the station.

It is stated that TETCO and Lebanon are preparing and will execute a superseding Service Agreement providing for the delivery to Lebanon of quantities of natural gas presently certificated for sale under TETCO's Rate Schedule SGS and I-B which will establish a Maximum Daily Delivery Obligation (MDDO) of 5,987 dekatherms (dth) per day for the new delivery point.

TETCO states there will be no change in MDDO at the other existing delivery point in the superseding Service Agreement, nor any increase in the total contract quantities. The natural gas quantities delivered to Lebanon will be utilized as general system supply by Lebanon.

Further, TETCO states that the addition of M&R Station No. 2672 will have no effect on TETCO's peak day or annual deliveries and the total contract quantities deliverable under the Service Agreement will not be changed. TETCO asserts that the instant proposal would be accomplished without detriment or disadvantage to TETCO's other customers.

Comment date: March 9, 1989, in accordance with Standard Paragraph G at the end of this notice.

17. Panhandle Eastern Pipe Line Company

[Docket No. CP89-632-000]

January 23, 1989.

Take notice that on January 17, 1989, Panhandle Eastern Pipe Line Company (Panhandle), P.O. Box 1642, Houston, Texas 77251-1642, filed in Docket No. CP89-632-000 a request pursuant to § 157.205 of the Commission's Regulations under the Natural Gas Act (18 CFR 157.205) for authorization to provide an interruptible transportation service for Amgas, Inc. (Amgas), a marketer, under the blanket certificate issued in Docket No. CP86-585-000 on November 20, 1987, pursuant to section 7 of the Natural Gas Act, all as more fully set forth in the request that is on file with the Commission and open to public inspection.

Panhandle states that pursuant to a transportation agreement dated November 15, 1988, under its Rate Schedule PT, it proposes to transport up to 308 dekatherms (dt) per day equivalent of natural gas for Amgas from points of receipt listed in Exhibit "A" of the agreement to delivery points also listed in Exhibit "A", which transportation service may involve interconnections between Panhandle and various transporters. Panhandle states that it would receive the gas at various existing points on its system in Texas, Oklahoma, Kansas, Colorado, Wyoming, and Illinois, and that it would transport and redeliver the gas, less fuel used and unaccounted for line loss, for Amgas' account to Central Illinois Light Company in Sangamon County, Illinois.

Panhandle advises that service under § 284.223(a) commenced on December 1, 1988, as reported in Docket No. ST89-1636. Panhandle further advises that it would transport 100 dt on an average day and 36,500 dt annually.

Comment date: March 9, 1989, in accordance with Standard Paragraph G at the end of this notice.

18. Paiute Pipeline Company

[Docket No. CP89-624-000]

January 23, 1989.

Take notice that on January 17, 1989, Paiute Pipeline Company (Paiute), P.O. Box 94197, Las Vegas, Nevada 89193-4197, filed in Docket No. CP89-624-000 a request pursuant to §§ 157.205 and 284.223 of the Commission's Regulations under the Natural Gas Act (18 CFR 157.205 and 284.223) for authorization to provide an interruptible transportation service for Eagle-Picher Minerals, Inc. (Eagle-Picher), an end-user, under Paiute's blanket certificate issued in Docket No. CP87-309-000 pursuant to section 7 of the Natural Gas Act, all as more fully set forth in the request which is on file with the Commission and open to public inspection.

Paiute states that, pursuant to a transportation agreement dated November 14, 1988, under its Rate Schedule IT-1, it proposes to transport up to 2,800 MMBtu equivalent of natural gas per day on a peak day for Eagle-Picher from the point of receipt at the interconnection between the facilities of Paiute and Northwest Pipeline Corporation at the Idaho-Nevada border. It is stated that Paiute will transport and redeliver the gas to Southwest Gas Corporation-Northern Nevada, a local distribution company, for the account of Eagle-Picher at the Eagle-Picher No. 1 delivery point located in Washoe County, Nevada, and the Eagle-Picher No. 2 delivery point located in Pershing County, Nevada. Paiute states that no new facilities will need to be constructed to provide the transportation service. Paiute advises that service under § 284.223(a) commenced November 17, 1988, as reported in Docket No. ST89-1361. Paiute estimates that it will transport approximately 1,280 MMBtu equivalent of natural gas on an average day and approximately 467,000 MMBtu equivalent of natural gas on an annual basis for Eagle-Picher.

Comment date: March 9, 1989, in accordance with Standard Paragraph G at the end of this notice.

19. Northern Natural Gas Company Division of Enron Corp.

[Docket No. CP89-592-000]

January 23, 1989.

Take notice that on January 11, 1989, Northern Natural Gas Company, Division of Enron Corp. (Northern), 1400 Smith Street, Houston, Texas 77002, filed in Docket No. CP89-592-000 an application pursuant to section 7(b) of the Natural Gas Act and Part 157 of the Commission's Regulations for an order authorizing Northern to partially abandon firm sales service to a utility customer, Kansas Power and Light Company (KP&L), all as more fully set forth in the application which is on file with the Commission and open to public inspection.

It is indicated that KP&L advised Northern that it desires to reform its service agreement for Rate Schedule PL-1 firm sales service, which agreement expired by its own terms on April 30,

1988, to reflect reduced entitlements from 4,898 Mcf per day to 100 Mcf per day. Northern requests that the reduced entitlements of 100 Mcf per day be authorized effective May 1, 1988. Northern states that KP&L has executed a new PL-1 service agreement reflecting the 100 Mcf per day contract demand level effective May 1, 1988. Northern also states that no abandonment of facilities is proposed.

Comment date: February 13, 1989, in accordance with Standard Paragraph F at the end of this notice.

20. Texas Gas Transmission Corporation

[Docket No. CP89-610-000]

January 23, 1989.

Take notice that on January 13, 1988, Texas Gas Transmission Corporation (Texas Gas), 3800 Frederica Street, Owensboro, Kentucky 42301, filed in Docket No. CP89-610-000 an application pursuant to section 7(b) of the Natural Gas Act for permission and approval to partially abandon jurisdictional sales service provided to Columbia Gas Transmission Corporation (Columbia), all as more fully set forth in application which is on file with the Commission and open to public inspection.

Texas Gas states that by letter dated September 28, 1988, Columbia served Texas Gas with 30 days notice of its intention to abandon 133,000 MMBtu per day of its Contract Demand (CD) pursuant to the automatic provisions of § 157.21 of the Commission's Regulations as set forth in Order No. 490. Texas Gas further states that the sale to Columbia has been made under Texas Gas' Rate Schedule CDL-4 pursuant to a Service Agreement dated July 1, 1969. The Service Agreement was for a primary term of 20 years from the effective date of November 1, 1969, with a provision for extension on a year-to-year basis after the expiration of the primary term, unless such agreement was terminated by either party upon twelve months prior written notice. The Service Agreement was approved in Docket No. CP69-115 and authorized a sale of up to 295,856 MMBtu per day to Columbia.

It is stated that Texas Gas seeks authority to abandon the 133,000 MMBtu per day, which would result in Columbia's firm sales CD being reduced from a current level of 295,856 MMBtu per day to 162,856 MMBtu per day. On November 1, 1988, Texas Gas and Columbia entered into a new service agreement that reflects the reduced CD level. No abandonment of facilities is required in connection with the proposed partial abandonment of sales service to Columbia.

Texas Gas states that since Columbia has chosen to abandon the subject service pursuant to Order No. 490, indicating to Texas Gas that it has procured other supply alternatives to replace that portion of the Texas Gas sale and has correspondingly relieved itself of any obligations to pay Texas Gas a demand charge to reserve such service, Texas Gas submits that the authorization requested herein is required by the public convenience and necessity. Without such authority, Texas Gas states that it cannot prudently contract for and apply to the Commission for authority to transfer the capacity and service abandoned by Columbia to other firm sales or transportation customers who have indicated an interest in receiving service from Texas Gas.

Comment date: February 13, 1989, in accordance with Standard Paragraph F at the end of this notice.

21. Natural Gas Pipeline Company of America

[Docket No. CP89-607-000]

January 23, 1989.

Take notice that on January 13, 1989, Natural Gas Pipeline Company of America (Natural), 701 East 22nd Street, Lombard, Illinois, 60148, filed in Docket No. CP89-607-000 a request pursuant to § 157.205 of the Commission's Regulations for authorization to provide transportation service on behalf of Cornerstone Production Corporation (Cornerstone), under Natural's blanket certificate issued in Docket No. CP86-582-000, pursuant to section 7 of the Natural Gas Act, all as more fully set forth in the application which is on file with the Commission and open to public inspection.

Natural requests authorization to transport, on an interruptible basis, up to a maximum of 100,000 MMBtu of natural gas per day (plus any additional volumes accepted pursuant to the overrun provision's of Natural's Rate Schedule ITS) for Cornerstone from receipt points located in Texas, offshore Texas, Louisiana and offshore Louisiana to delivery points located in Louisiana and Texas. Natural anticipates transporting, on an average day 35,000 MMBtu and an annual volume of 12,775,000 MMBtu.

Natural states that the transportation of natural gas for Cornerstone commenced December 1, 1988, as reported in Docket No. ST89-1725-000, for a 120-day period pursuant to § 284.223(a) of the Commission's Regulations and the blanket certificate issued to Natural in Docket No. CP86-582-000.

Comment date: March 9, 1989, in accordance with Standard Paragraph G at the end of the notice.

22. Texas Gas Transmission Corporation

[Docket No. CP89-609-000]

January 23, 1989.

Take notice that on January 13, 1989, Texas Gas Transmission Corporation (Texas Gas), 3800 Frederica Street, Owensboro, Kentucky 42301, filed in Docket No. CP89-609-000 a request pursuant to §§ 157.205 and 284.223 (2)(b) of the Commission's Regulations under the Natural Gas Act for authorization to provide an interruptible transportation service for Atlas Gas Marketing Inc. (Atlas) under Texas Gas's blanket certificate issued in Docket No. CP86-686-000 pursuant to section 7 of the Natural Gas Act, all as more fully set forth in the request on file with the Commission and open for public inspection.

Texas Gas states that it would transport, on an interruptible basis, up to a maximum of 15,000 MMBtu of natural gas per day for Atlas. Texas Gas states that various receipt points would be located in Louisiana, Tennessee, Kentucky, Illinois, Arkansas, Ohio, and Indiana, and the delivery points would in Ohio. Texas Gas indicates that the total volume of gas to be transported for Atlas on a peak day would be 15,000 MMBtu; on an average day would be 4,000 MMBtu; and on an annual basis would be 1,460,000 MMBtu. Texas Gas indicates it would perform the proposed transportation service for Atlas pursuant to a service agreement dated November 11, 1988, between Texas Gas and Atlas.

Texas Gas states it commenced the transportation of natural gas for Atlas on November 11, 1988, at Docket No. ST89-1383-000 for a 120-day period pursuant to § 284.223(a)(1) of the Commission's Regulations. Texas Gas states that it proposes to continue this service in accordance with §§ 284-221 and 284.223. Texas Gas indicates that it proposes no new facilities in order to provide this transportation service.

Comment date: March 9, 1989, in accordance with Standard Paragraph G at the end of this notice.

23. Texas Gas Transmission Corporation

[Docket No. CP89-608-000]

January 23, 1989.

Take notice that on January 13, 1989, Texas Gas Transmission Corporation (Texas Gas), 3800 Frederica Street, Owensboro, Kentucky 42301, filed in Docket No. CP89-608-000 a request pursuant to §§ 157.205 and 284.223 of the

Commission's Regulations under the Natural Gas Act for authorization to provide an interruptible transportation service for Woodward Marketing Inc. (Woodward) under the blanket certificate issued in Docket No. CP88–686–000 pursuant to section 7 of the Natural Gas Act, all as more fully set forth in the request on file with the Commission and open to public inspection.

Texas Gas requests authorization to transport on a peak day up to 40,000 MMBtu of natural gas for Energy Buyers, with an estimated average daily quantity of 5,000 MMBtu. On an annual basis, Woodward estimates a volume of up to 1,825,000 MMBtu.

It is stated that transportation service for Woodward commenced November 29, 1988, under the 120-day automatic provisions of § 284.223(a) of the Commission's Regulations, as reported in Docket No. ST89–1384.

Comment date: March 9, 1989, in accordance with Standard Paragraph G at the end of this notice.

24. Panhandle Eastern Pipe Line Company

[Docket No. CP89–640–000]

January 23, 1989.

Take notice that on January 17, 1989, Panhandle Eastern Pipe Line Company (Panhandle), P.O. Box 1642, Houston, Texas 77251–1642, filed in Docket No. CP89–640–000 a request pursuant to § 157.205 of the Commission's Regulations under the Natural gas Act (18 CFR 157.205) for authorization to provide an interruptible transportation service for Amgas, Inc. (Amgas), a marketer, under the blanket certificate issued in Docket No. CP86–585–000 on November 20, 1987, pursuant to section 7 of the Natural Gas Act, all as more fully set forth in the request that is on file with the Commission an open to public inspection.

Panhandle states that pursuant to a transportation agreement dated November 2, 1988, under its Rate Schedule PT, it proposes to transport up to 70 dekatherms (dt) per day equivalent of natural gas for Amgas from points of receipt listed in Exhibit "A" of the agreement to delivery points also listed in Exhibit "A", which transportation service may involve interconnections between Panhandle and various transporters. Panhandle states that it would receive the gas at various existing points on its system in Texas, Oklahoma, Kansas, Colorado, Wyoming, and Illinois, and that it would transport and redeliver the gas, less fuel used and unaccounted for line loss, for Amgas' account to Central Illinois Light Company in Sangamon County, Illinois.

Panhandle advises that service under § 284.223(a) commenced on December 1, 1988, as reported in Docket No. ST89–1632. Panhandle further advises that it would transport 15 dt on an average day and 5,475 dt annually.

Comment date: March 9, 1989, in accordance with Standard Paragraph G at the end of this notice.

25. United Gas Pipe Line Company

[Docket No. CP89–643–000]

January 23, 1989.

Take notice that on January 17, 1989, United Gas Pipe Line Company (United), P.O. Box 1478, Houston, Texas 77251–1478, filed in Docket No. CP89–643–000 a request pursuant to § 157.205 of the Commission's Regulations for authorization to provide transportation service on behalf of Arkla Energy Marketing Company (Arkla), under United's blanket certificate issued in Docket No. CP88–6–000, pursuant to section 7 of the Natural Gas Act, all as more fully set forth in the application which is on file with the Commission and open to public inspection.

United requests authorization to transport, on a firm basis, up to a maximum of 206,000 MMBtu of natural gas per day for Arkla from receipt points located in Louisiana, Mississippi and Texas to delivery points located in Alabama, Florida, Louisiana, Mississippi and Texas. United anticipates transporting, on an average day 206,000 MMBtu and an annual volume of 75,190,000 MMBtu.

United states that the transportation of natural gas for commenced November 16, 1988, as reported in Docket No. ST89–1595–000, for a 120-day period pursuant to § 284.223(a) of the Commission's Regulations and the blanket certificate issued to United in Docket No. CP88–6–000.

Comment date: March 9, 1989, in accordance with Standard Paragraph G at the end of this notice.

26. Texas Gas Transmission Corporation

[Docket No. CP89–659–000]

January 23, 1989.

Take notice that on January 18, 1988, Texas Gas Transmission Corporation, (Texas Gas) 3800 Frederica Street, Owensboro, Kentucky 42301, filed in Docket No. CP89–659–000 a request pursuant to § 157.205 of the Commission's Regulations under the Natural Gas Act (18 CFR 157.205) for authorization to transport natural gas under its blanket authorization issued in Docket No. CP88–686–000 pursuant to section 7 of the Natural Gas Act, all as more fully set forth in the request which is on file iwth the Commission and open to public inspection.

Texas Gas proposes to transport natural gas on an interruptible basis for Western Kentucky Gas Resources d/b/a NRG Corporation (Western-NRG). Texas Gas explains that the service commenced December 1, 1988, under § 284.223(a) of the Commission's Regulations, as reported in Docket No. ST89–1381. Texas Gas proposes to transport on a peak day up to 110,000 MMBtu; on an average day up to 50,000 MMBtu; and on an annual basis up to 1,825,000 MMBtu. Texas Gas proposes to receive the subject gas from various points of receipt in Louisiana, Kentucky, Texas, Offshore Louisiana, Tennessee, Illinois, Ohio, and Indiana. Texas Gas states that Louisville Gas & Electric and GenCrop.

Comment date: March 9, 1989, in accordance with Standard Paragraph G at the end of this notice.

27. Tennessee Gas Pipeline Company

[Docket No. CP89–626–000]

January 23, 1989.

Take notice that on January 17, 1989, Tennessee Gas Pipeline Company (Applicant), P.O. Box 2511, Houston, Texas 77252, filed in Docket No. CP89–626–000 a request pursuant to § 157.205 and 284.223 of the Commission Regulations under the Natural Gas Act (18 CFR 157.205 and 284.223) for authorization to provide a transportation service for Union Texas Petroleum Corporation (Union Texas) under Applicant's blanket certificate issued in Docket No. CP87–115–000 on June 18, 1987, pursuant to section 7 of the Natural Gas Act, all as more fully set forth in the request on file with the commission and open to public inspection.

Applicant proposes, pursuant to a transportation agreement dated October 24, 1988, as amended October 24, 1988, to transport natural gas for Union Texas from points of receipt located in offshore Louisiana and the State of Louisiana. It is stated that points of delivery are interconnections with ANR Pipeline Company located at Chalkley, offshore Louisiana; Trunkline Gas Company at Kinder, Jefferson Davis Parish, Louisiana; Consolidated Edison Company of New York at White Plains, Westchester County, New York; Nashville Gas Company at Nashville #2, Davidson County, Tennessee; and Mississippi Fuel Company at Stafford Springs, Jasper County, Mississippi. Applicant further states that the maximum daily and average daily quantities are 100,000 dekatherms (dt)

and 365,000,000 dt on an annual basis. Applicant states that service under § 284.223(a) commenced November 1, 1988, as reported in Docket No. ST89–1073 filed December 1, 1988.

Comment date: March 9, 1989, in accordance with Standard Paragaph G at the end of this notice.

28. Northern Natural Gas Company Division of Enron Corp.

[Docket No. CP89–631–000]

January 23, 1989.

Take notice that on January 17, 1989, Northern Natural Gas Company, Division of Enron Corp., (Northern), 1400 Smith Street, P.O. Box 1188, Houston, Texas 77251–1188, filed in Docket No. CP89–631–000, an application pursuant to § 157.205 of the Commission's Regulations under the Natural Gas Act (18 CFR 157.205) for authority to transport natural gas on behalf of Amoco Production Company (Amoco), a producer of natural gas, all as more fully set forth in the application on file with the Commission and open to public inspection.

Northern proposes to transport up to 500,000 MMBtu of natural gas per day for Amoco, on an interruptible basis, pursuant to a Transportation Service Agreement dated November 29, 1988 (Agreement). Northern states that the service would be provided under its IT–1 Rate Schedule for an initial term of ten (10) years and month to month thereafter. Northern further states that the Agreement provides for it to receive gas on behalf of Amoco at various existing points of receipt along its system and deliver such gas to fifty (50) existing points of delivery along its system. The average day and annual transportation quantities are expected to 375,000 MMBtu and 182,500,000 MMBtu, respectively. Northern advises that the service commenced on November 29, 1988, as reported in Docket No. ST89–1419–000, pursuant to § 284.223(a) of the Commission's Regulations.

Comment date: March 9, 1989, in accordance with Standard Paragraph G at the end of the notice.

29. Panhandle Eastern Pipe Line Company

[Docket No. CP89–583–000]

January 24, 1989.

Take notice that on January 10, 1989, Panhandle Eastern Pipe Line Company (Panhandle), P.O. Box 1642, Houston, Texas 77251–1642, filed in Docket No. CP89–583–000 a request pursuant to §§ 157.205 and 284.223 of the Commission's Regulations under the Natural Gas Act (18 CFR 157.205) for authorization to transport natural gas on behalf of Mountain Iron and Supply Company (Mountain Iron), under the certificate issued in Docket No. CP86–585–000 pursuant to section 7 of the Natural Gas Act, all as more fully set forth in the request on file with the Commission and open to public inspection.

Panhandle indicates that it proposes to transport up to 300 dt. per day on an interruptible basis, on behalf of Mountain Iron pursuant to a Transportation Agreement dated October 24, 1988 between Panhandle and Mountain Iron. The Transportation Agreement provides Panhandle to receive gas from various existing points of receipt on its system in Texas, Oklahoma, Kansas, Colorado, Wyoming, and Illinois. Panhandle also indicates that it will transport and redeliver subject gas, less fuel used and unaccounted for line loss, to Central Illinois Light Company (CILCO) in Tazewell, Edgar, Mouthrie, Douglas, Vermilion, Logan, Champaign, Sangamon, Peria, and Knox Counties, Illinois.

Panhandle estimates that the volume of gas to be transported on an average day 200 dt and 73,000 dt., respectively. Panhandle further indicates it commenced their service on December 1, 1988, as reported in Docket No. ST89–1514–000.

Comment date: March 10, 1989, in accordance with Standard Paragraph G at the end of this notice.

30. United Gas Pipe Line Company

[Docket No. CP89–614–000]

January 24, 1989.

Take notice that on January 13, 1989, United Gas Pipe Line Company (United), P.O. Box 1478, Houston, Texas 77251–1478, filed in Docket No. CP89–614–000 a request pursuant to §§ 157.205 and 284.223 of the Commission's Regulations under the Natural Gas Act for authorization to transport natural gas for Texaco Gas Marketing (Texaco) a marketer, under United's blanket certificate issued in Docket No. CP88–6–000 pursuant to section 7 of the Natural Gas Act, all as more fully set forth in the request which is on file with the Commission and open to public inspection.

United proposes to transport up to 206 billion Btu equivalent of natural gas per day on an interruptible basis for Texaco. United states it would receive the gas at an existing points of receipt in Mississippi and onshore and offshore Louisiana, and redeliver the gas for the account of Texaco at existing interconnections located in the states of Flordia, Mississippi, Alabama, and Louisiana. United states it commenced service for Texaco under § 284.223(a) on December 19, 1988, as reported in Docket No. ST89–1374.

Comment date: March 10, 1989, in accordance with Standard Paragraph G at the end of this notice.

31. Panhandle Eastern Pipe Line Company

[Docket No. CP89–662–000]

January 24, 1989.

Take notice that on January 18, 1989, Panhandle Eastern Pipe Line Company (Panhandle), P.O. Box 1642, Houston, Texas 77251–1642, filed in Docket No. CP89–662–000 a request pursuant to §§ 157.205(b) and 284.223 of the Regulations under the Natural Gas Act for authorization to provide a transportation service for Indiana Gas Company (Indiana), under the certificate issued in Docket No. CP86–585–000 pursuant to section 7 of the Natural Gas Act, all as more fully set forth in the request with the Commission and open to public inspection.

Panhandle states that it proposes to transport natural gas for Indiana from various receipt points located in Texas, Oklahoma, Kansas, Colorado, Wyoming and Illinois. Panhandle further states that the maximum daily and annual quantities that it would transport for Western would be 38,572 dekatherms and 14,078,780 dekatherms, respectively.

Panhandle indicates that in a filing made with the Commission in Docket ST89–1432, it reported that transportation service for Indiana commenced on November 1, 1988 under the 120-day automatic authorization provisions of § 284.233(a).

Panhandle states that it believes the self-implementing transportation portion of this transaction would cease prior to the expiration of the notice period to be established for this application. For this reason, Panhandle has requested a waiver of § 284.223(a) of the Commission's Regulations which permits self-implementing transportation for blanket certificate transportation transactions for only a 120-day period, so that it may be permitted to continue the transportation of gas on behalf of Indiana on a self-implementing basis until the end of the 45-day notice period established for this application.

Comment date: March 10, 1989, in accordance with Standard Paragraph G at the end of this notice.

32. Williams Natural Gas Company

[Docket No. CP89-665-000]

January 25, 1989.

Take notice that on January 18, 1989, Williams Natural Gas Company (Williams), P.O. Box 3288, Tulsa, Oklahoma 74101, filed in Docket No. CP89-665-000 a request pursuant to § 157.205 of the Commission's Regulations under the Natural Gas Act (18 CFR 157.205) for authorization to transport natural gas on behalf of Rangeline Corporation (Rangeline), a marketer, under its blanket authorization issued in Docket No. CP89-631-000 pursuant to section 7 of the Natural Gas Act, all as more fully set forth in the request which is on file with the Commission and open to public inspection.

Williams would perform the proposed interruptible transportation service for Rangeline, pursuant to an interruptible transportation service agreement dated December 1, 1988 (Reference No. TR-A0037). The transportation agreement is effective for a term until May 1, 1989. Williams proposes to transport approximately 675 MMBtu of natural gas on a peak and average day; and on an annual basis 246,375 MMBtu of natural gas for Rangeline. Williams proposes to receive the subject gas at various points located in the states of Kansas and Oklahoma for delivery to various points on Williams' pipeline system located in the states of Kansas and Missouri.

It is explained that the proposed service is currently being performed pursuant to the 120-day self implementing provision of § 284.223(a)(1) of the Commission's Regulations. Williams commenced such self-implementing service on December 1, 1988, as reported in Docket No. ST89-1665-000.

Comment date: March 13, 1989, in accordance with Standard Paragraph G at the end of this notice.

33. ANR Pipeline Company

[Docket No. CP89-648-000]

January 25, 1989.

Take notice that on January 17, 1989, ANR Pipeline Company (ANR), 500 Renaissance Center, Detroit, Michigan 48243, filed in Docket No. CP89-648-000 a request pursuant to §§ 157.205 and 284.223 of the Commission's Regulations under the Natural Gas Act for authorization to transport natural gas under the blanket certificate issued in Docket No. CP887-532-000 pursuant to section 7(c) of the Natural Gas Act, all as more fully set forth in the request on file with the Commission and open to public inspection.

ANR proposes to transport natural gas on a firm basis for General Motors Corporation (General Motors). ANR explains that service commenced December 6, 1988 under § 284.223(a) of the Commission's Regulations, as reported in Docket No. ST89-1661. ANR further explains that the peak day quantity would be 5,100 dekatherms, the average daily quantity would be 5,100 dekatherms, and that the annual quantity would be 1,861,500 dekatherms. ANR explains that it would receive natural gas for General Motors' account from points of receipt in Louisiana and offshore Louisiana. ANR states that the points of delivery are located in the state of Wisconsin.

Comment date: March 13, 1989, in accordance with Standard Paragraph G at the end of this notice.

34. Tennessee Gas Pipeline Company

[Docket No. CP89-653-000]

January 25, 1989.

Take notice that on January 18, 1989, Tennessee Gas Pipeline Company (Tennessee), P.O. Box 2511, Houston, Texas 77252, filed in Docket No. CP89-653-000 a request pursuant to §§ 157.205, 157.211 and 284.223 of the Regulations under the Natural Gas Act for authorization to provide a transportation service for Tenneco Oil Company (Tenneco Oil), a producer, and to certificate, prior to commencement of the transportation service, a delivery point under the certificate issued in Docket No. CP87-115-000 pursuant to section 7 of the Natural Gas Act, all as more fully set forth in the request on file with the Commission and open to public inspection.

Tennessee states that it proposes to transport natural gas for Tenneco Oil from various receipt points located offshore Louisiana and offshore Texas, to a delivery point located at Tennessee's milepost 523M-2901+1.27 miles, on Tenneco Oil's platform located at Ship Shoal Block 168B, offshore Louisiana. Tennessee further states that it has installed a ball-valve in a pre-existing meter and requests certificate authorization to use this meter to deliver gas to Tenneco Oil.

Tennessee indicates that the maximum daily, average daily and annual quantities that it would transport for Tenneco Oil would be 1,559 dt equivalent of natural gas, 1,559 dt equivalent of natural gas and 569,035 dt equivalent of natural gas, respectively. Tennessee proposes to provide the transportation service to Tenneco Oil under Tennessee's Rate Schedule IT.

Comment date: March 13, 1989, in accordance with Standard Paragraph G at the end of this notice.

35. ANR Pipeline Company

[Docket No. CP89-650-000]

January 25, 1989.

Take notice that on January 17, 1989, ANR Pipeline Company (ANR), 500 Renaissance Center, Detroit, Michigan 48243, filed in Docket No. CP89-650-000 a request pursuant to §§ 157.205 and 284.223 of the Commission's Regulations under the Natural Gas Act for authorization to transport natural gas under the blanket certificate issued in Docket No. CP887-532-000 pursuant to section 7(c) of the Natural Gas Act, all as more fully set forth in the request on file with the Commission and open to public inspection.

ANR proposes to transport natural gas on an interruptible basis for Western Gas Processors, Ltd. (Western). ANR explains that service commenced December 3, 1988 under § 284.223(a) of the Commission's Regulations, as reported in Docket No. ST89-1666. ANR further explains that the peak day quantity would be 40,000 dekatherms, the average daily quantity would be 40,000 dekatherms, and that the annual quantity would be 14,600,000 dekatherms. ANR explains that it would receive natural gas for Western's account from Colorado Interstate Gas Company in Beaver County, Oklahoma. ANR states that it would deliver the gas to Natural Gas Pipeline Company of America in Beaver County, Oklahoma.

Comment date: March 13, 1989, in accordance with Standard Paragraph G at the end of this notice.

Standard Paragraphs

F. Any person desiring to be heard or make any protest with reference to said filing should on or before the comment date file with the Federal Energy Regulatory Commission, 825 North Capitol Street NE., Washington, DC 20426, a motion to intervene or a protest in accordance with the requirements of the Commission's Rules of Practice and Procedure (18 CFR 385.211 and 385.214) and the Regulations under the Natural Gas Act (18 CFR 157.10). All protests filed with the Commission will be considered by it in determining the appropriate action to be taken but will not serve to make the protestants parties to the proceeding. Any person wishing to become a party to a proceeding or to participate as a party in any hearing therein must file a motion to intervene in accordance with the Commission's Rules.

Take further notice that, pursuant to the authority contained in and subject to jurisdiction conferred upon the Federal Energy Regulatory Commission by sections 7 and 15 of the Natural Gas Act and the Commission's Rules of Practice and Procedure, a hearing will be held without further notice before the Commission or its designee on this filing if no motion to intervene is filed within the time required herein, if the Commission on its own review of the matter finds that a grant of the certificate is required by the public convenience and necessity. If a motion for leave to intervene is timely filed, or if the Commission on its own motion believes that a formal hearing is required, further notice of such hearing will be duly given.

Under the procedure herein provided for, unless otherwise advised, it will be unnecessary for the applicant to appear or be represented at the hearing.

G. Any person or the Commission's staff may, within 45 days after the issuance of the instant notice by the Commission, file pursuant to Rule 214 of the Commission's Procedural Rules (18 CFR 385.214) a motion to intervene or notice of intervention and pursuant to § 157.205 of the Regulations under the Natural Gas Act (18 CFR 157.205) a protest to the request. If no protest is filed within the time allowed therefor, the proposed activity shall be deemed to be authorized effective the day after the time allowed for filing a protest. If a protest is filed and not withdrawn within 30 days after the time allowed for filing a protest, the instant request shall be treated as an application for authorization pursuant to section 7 of the Natural Gas Act.

Standard Paragraph

J. Any person desiring to be heard or make any protest with reference to said filings should on or before the comment date file with the Federal Energy Regulatory Commission, 825 North Capitol Street NE., Washington, DC 20426, a motion to intervene or a protest in accordance with the requirements of the Commission's Rules of Practice and Procedure (18 CFR 385.211, 385.214). All protests filed with the Commission will be considered by it in determining the appropriate action to be taken but will not serve to make the protestants parties to the proceeding. Any person wishing to become a party in any proceeding herein must file a petition to intervene in accordance with the Commission's rules.

Under the procedure herein provided for, unless otherwise advised, it will be unnecessary for the applicant to appear or be represented at the hearing.

Lois D. Cashell,

Secretary.

[FR Doc. 89-2037 Filed 1-27-89; 8:45 am]

BILLING CODE 6717-01-M

[Docket Nos. TM89-1-1-001 and RP88-205-004]

Alabama-Tennessee Natural Gas Co.; Proposed Changes in FERC Gas Tariff

January 25, 1989.

Take notice that on January 17, 1989, Alabama-Tennessee Natural Gas Company (Alabama-Tennessee), Post Office Box 918, Florence, Alabama, 35631, tendered for filing Substitute First Revised Sheet No. 4A to its FERC Gas Tariff, First Revised Volume No. 1. Such tariff sheet is proposed to become effective January 1, 1989.

Alabama-Tennessee states that the filing is made pursuant to the Commission's order issued January 11, 1989 in Docket Nos. RP88-205-001, *et al.* and adjusts the currently effective take-or-pay surcharge rates to its customers to reflect increases in the amount being billed to its by Tennessee Gas Pipeline. Alabama-Tennessee further states that such filing is being made pursuant to § 26.1(a) of its tariff.

Alabama-Tennessee is amortizing the increased take-or-pay costs over a thirty-six (36) month period. According to Alabama-Tennessee, that is the maximum amortization period allowed by this Commission in FERC Docket No. RP88-191.

Alabama-Tennessee has requested any necessary waivers of the Commission's Regulations in order to permit the tariff sheets to become effective as proposed.

Alabama-Tennessee states that copies of the tariff filing have been mailed to all of its jursisdictional customers and effected State Regulatory Commissions.

Any person desiring to be heard or to protest said filing should filed a motion to intervene or protest with the Federal Energy Regulatory Commission, 825 North Capitol Street NE., Washington, DC 20426, in accordance with Rule 211 or Rule 214 of the Commission's Rules of Practice and Procedure (18 CFR §§ 385.211 and 385.214). All such motions or protests should be filed on or before February 1, 1989. Protests will be considered by the Commission in determining the appropriate action to be taken but will not serve to make protestants parties to the proceeding. Any person wishing to become a party to the proceeding must file a motion to intervene. Copies of this filing are on file with the Commission and are available for public inspection.

Lois D. Cashell,

Secretary.

[FR Doc. 89-2099 Filed 1-27-89; 8:45 am]

BILLING CODE 6717-01-M

[Docket Nos. RP85-122-017 and RP87-30-021]

Colorado Interstate Gas Co.; Compliance Filing

January 25, 1989.

Take note that on January 17, 1989 Colorado Interstate Gas Company ("CIG") submitted revised tariff sheets to its FERC Gas Tariff.

CIG states that this filing is made in compliance with the requirements of the Commission's Opinion Nos. 290 and 290A, as well as the July 1, 1988 letter order and the November 29, 1988 Order Denying Appeal From Staff Action. According to CIG the instant tariff sheets reflect establishment of a Modified Fixed Variable form of rate design and make other rate design and tariff changes for prospective application.

CIG states that it has sought judicial review of the requirement that it establish a modified fixed variable form of rate design and that it reserves its right to adjust the rates reflected in the instant filing consistent with the ultimate outcome of the pending appeal.

CIG further states that the modified fixed variable form of rate design reflected in the instant filing is predicated upon D-2 nominations submitted by its customers pursuant to Opinion No. 290-A. CIG notes that it sought rehearing of that requirement of Opinion No. 290-A, which the Commission denied in Opinion No. 290-B in which CIG was also required to make certain tariff modifications. CIG has appealed Opinion No. 290-B and states that it reserves the right to adjust the instant filing to reflect the ultimate disposition of that appeal.

CIG states the instant filing eliminates Rate Schedule PR-1 in its entirety for the locked in period July 14, 1987 through August 3, 1988.

CIG states that it has complied with the requirement of Opinion Nos. 290 and 290-A that it eliminate its fixed cost minimum commodity bill applicable to Natural Gas Pipeline Company of America. Because CIG has appealed this

aspect of Opinion Nos. 290 and 290–A CIG protests the requirement that it make this filing pending final judicial resolution of the minimum bill issue. Should it prevail in the pending litigation, such that the minimum bill is not required to be eliminated, CIG reserves its right to withdraw the portion of this filing eliminating the minimum bill, and to substitute in lieu thereof tariff sheets: (1) Reflecting continuation of the minimum bill, (2) making appropriate rate adjustments consistent with continuation of the fixed cost minimum commodity bill, and (3) establishing any surcharge that may be required. CIG further states that it reserves the right to file tariff sheets reflecting elimination of the minimum bill volumes and reflecting the resultant reallocation of costs based upon the elimination of the minimum bill provision at such time as the mandate issues in the recent decision in *ANR Pipeline Co., v. FERC*, Nos. 87–1340 and 88–1030 (D.C. Cir. December 13, 1988), and to reflect an appropriate surcharge to recover reallocated costs retroactive to the effective date of the rates contained in the instant filing.

CIG states that because the issue of whether the minimum bill should be eliminated retroactively rather than prospectively is pending judicial review, CIG states that it reserves the right to establish an appropriate surcharge retroactive to whatever retroactive date that the minimum bill may ultimately be required to be eliminated.

CIG states that because other aspects of Opinion Nos. 290 and 290–A are pending judicial review CIG states that it reserves the right to modify the instant filing based upon the ultimate outcome of such pending judicial review or final Commission action.

Copies of this filing are being served on all jurisdictional customers and interested state commissions.

Any person desiring to be heard or to protest said filing should file a motion to intervene or protest with the Federal Energy Regulatory Commission, 825 North Capitol Street, NE., Washington, DC 20426, in accordance with §§ 385.214 and 385.211 of the Commission's Rules and Regulations. All such motions or protests should be filed on or before Feb. 1, 1989. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a motion to intervene. Copies of this filing are on file with the Commission and are available for public inspection in the Public Reference Room.

Lois D. Cashell,

Secretary.

[FR Doc. 89–2100 Filed 1–27–89; 8:45 am]

BILLING CODE 6717–01–M

[Docket No. TQ89–3–25–000]

Mississippi River Transmission Corp.; Tariff Filing

January 25, 1989.

Take notice that on January 13, 1989, Mississippi River Transmission Corporation (MRT) tendered for filing Thirtieth Revised Sheet No. 4 to its FERC Gas Tariff, Second Revised Volume No. 1 to be effective February 1, 1989.

MRT states that its filing is being submitted to comply with the Commission's Order No. 483 issued on November 10, 1987, which revised its regulations applicable to the purchased gas cost adjustment (PGA) filings of interstate pipelines. In accordance with the Transition Rules contained in § 154.310(c)(5)(iii) of the regulations, the instant filing reflects termination of MRT's currently effective Surcharge Adjustments effective February 1, 1989. New Surcharge Adjustments will not be applicable until June 1, 1989, the effective date of MRT's Annual PGA filing.

MRT states that the overall cost impact of the Surcharge Adjustment eliminations on its jurisdictional customers is a decrease of approximately $1.9 million for the four-month period. The impact of the instant filing on MRT's Rate Schedule CD–1 is an increase of 6.0 cents per Mcf in the Demand D–1 rate, an increase of 2.19 cents per Mcf in the Demand D–2 rate, and a decrease of 7.22 cents in the Commodity rate. MRT states the single part rate under Rate Schedule SGS–1 reflects a decrease of 4.45 cents per Mcf.

MRT states that copies of its filing have been served on all jurisdictional customers and interested state commissions. Any person desiring to be heard or to protest said filing should file a motion to intervene or protest with the Federal Energy Regulatory Commission, 825 North Capitol Street NE., Washington, DC 20426, in accordance with §§ 385.211 and 385.214 of the Commission's Rules of Practice and Procedure (18 CFR 385.211, 385.214). All such motions or protests should be filed on or before February 1, 1989. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a motion to intervene. Copies of this filing are on file with the Commission and are available for public inspection.

Lois D. Cashell,

Secretary.

[FR Doc. 89–2101 Filed 1–27–89; 8:45 am]

BILLING CODE 6717–01–M

[Docket Nos. TA89–1–59–001 and TF89–5–59–001]

Northern Natural Gas Co; Filing

January 24, 1989

Take notice that on January 13, 1989, Northern Natural Gas Company (Northern) filed Sixty Fourth Revised Sheet No. 4b (in Docket No. TA89–1–59–001) and Substitute Sixty Fourth Revised Sheet No. 4b (in Docket No. TF89–5–59–001) as part of its FERC Gas Tariff, Third Revised Volume No. 1, to be effective January 1, 1989.

Nothern states that these tariff sheets correct a sequencing error in the pagination of its FERC Gas Tariff.

Northern states that copies of this filing have been mailed to each of its gas utility customers and interested state commissions.

Any person desiring to be heard or to protest said filing should file a motion to intervene or a protest with the Federal Energy Regulatory Commission, 825 North Capitol Street NE., Washington, DC 20426, in accordance with Rules 214 and 211 of the Commission's Rules of Practice and Procedure (18 CFR 385.214, 385.211 (1989)). All such motions of protests should be filed on or before January 31, 1989. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a motion to intervene. Copies of this filing are on file with the Commission and are available for public inspection.

Lois D. Cashell,

Secretary.

[FR Doc. 89–2102 Filed 1–27–89; 8:45 am]

BILLING CODE 6717–01–M

ENVIRONMENTAL PROTECTION AGENCY

[FRL–3511–6]

Announcement of a Request for Applications for Superfund Research

AGENCY: Environmental Protection Agency.

ACTION: Notice of availability.

SUMMARY: A request for applications (RFA #NPIR–003–89) is available. The purpose of the RFA is to solicit grant proposals which will result in the development of innovative, cost-effective methods for biodegradation of hazardous organic wastes at Superfund sites. The Agency has $1,500,000 available and expects to support 10 to 15 proposals.

(Section 209, Superfund Amendments and Reauthorization Act, 1986).

DATE: Applications must be received no later than May 1, 1989, to be considered for funding.

ADDRESS: Copies of the RFA may be obtained from: U.S. Environmental Protection Agency, ORD Publications, 26 West Martin Luther King Drive, Cincinnati, Ohio 45268, Phone: 513–569–7562.

FOR FURTHER INFORMATION CONTACT: Questions relating to the RFA may be directed to Mr. Donald Carey at: U.S. Environmental Protection Agency, Research Grants Staff, RD–675, 401 M Street SW., Washington, DC 20460, Phone: 202–382–7445.

Clarice Gaylord,

Director, RGS.

Roger Cortesi,

Director, OER.

[FR Doc. 89–2027 Filed 1–27–89; 8:45 am]

BILLING CODE 6560–50–M

[FRL–3511–9]

Science Advisory Board, Clean Air Scientific Advisory Committee, Clinical Lab Review Subcommittee; Open Meeting

SUMMARY: Pursuant to the Federal Advisory Committee Act, Pub. L. 92–463, notice is hereby given of a public meeting of the Clinical Lab Review Subcommittee of the Clean Air Scientific Advisory Committee (CASAC) of the Environmental Protection Agency's Science Advisory Board. The meeting will be held from 10 a.m. to 5 p.m. on February 9, 1989, in the Old Well Room, Carolina Inn, Cameron Avenue and Columbia Street, Chapel Hill, North Carolina 27514. A writing session of the subcommittee will be held on February 10, 1989, in the South Parlor Room of the Carolina Inn. The starting time will be announced at the close of the meeting on February 9, 1989.

Purpose: The purpose of the meeting is to allow the Subcommittee to review and provide its advice to the Agency on the EPA's clinical research program. The Subcommittee will review the Clinical Lab Research Program Document and respond to oral presentations of Agency staff.

Availability of the Document: The Clinical Lab Research Program Document may be obtained from Mr. David Kleffman, Acting Director, Environmental Health Research Staff, Office of Health Research (RD–683), U.S. EPA, 401 M Street SW., Washington, DC 20460, (202) 382–5893, (FTS) 382–5893.

FOR FURTHER INFORMATION CONTACT: The meeting is open to the public. Any member of the public wishing further information concerning the meeting should contact Mr. Robert Flaak, Environmental Scientist and Executive Secretary, Clean Air Scientific Advisory Committee, Science Advisory Board (A–101F), U.S. EPA, Washington, DC 20460, (202) 382–2552, (FTS) 382–2552. Seating at the meeting is limited and will be on a first come basis.

Donald G. Barnes,

Director, Science Advisory Board.

Date: January 19, 1989.

[FR Doc. 89–2025 Filed 1–27–89; 8:45 am]

BILLING CODE 6560–50–M

[FRL 3511–3]

Zenith Chemical Co. Site; Notice of Proposed Settlement

AGENCY: Environmental Protection Agency.

ACTION: Notice of proposed settlement.

SUMMARY: Under section 122(h) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), the Environmental Protection Agency (EPA) has agreed to settle claims for response costs at the Zenith Chemical Company Site, Dalton, Georgia, with KEM Manufacturing. EPA will consider public comments on the proposed settlements for thirty (30) days. EPA may withdraw from or modify the proposed settlements should such comments disclose facts or considerations which indicated the proposed settlements are inappropriate, improper or inadequate. Copies of the proposed settlements are available from: Ms. Carolyn McCall, Investigations Support Clerk, Investigation and Cost Recovery Unit, Site Investigation and Support Branch, Waste Management Division, U.S. EPA, Region IV, 345 Courtland St., NE., Atlanta, Ga 30365, 404–347–5059.

Written comments may be submitted to the person above by thirty (30) days from date of publication.

Date: January 13, 1989.

Joe R. Franzmathes,

Acting Regional Administrator

[FR Doc. 89–2026 Filed 1–27–89; 8:45 am]

BILLING CODE 6560–50–M

[FRL–3509–4]

Approval of Connecticut's NPDES Program To Regulate Federal Facilities

AGENCY: Environmental Protection Agency.

ACTION: Notice of approval of the State of Connecticut's request for authority to administer the National Pollutant Discharge Elimination System (NPDES) and Pretreatment programs with respect to Federal Facilities.

SUMMARY: On January 9, 1989, the Environmental Protection Agency (EPA) approved the State of Connecticut's request to include regulation of Federal Facilities under its State water pollution permit program responsibility. Previously the State had been approved to administer the NPDES and Pretreatment programs for facilities other than Federal Facilities.

FOR FURTHER INFORMATION CONTACT: Michael Fedak, Water Management Division, U.S. Environmental Protection Agency, J.F.K. Federal Building, Boston, MA 02203, (617) 565–3493.

SUPPLEMENTARY INFORMATION: In 1977 Congress amended section 313 of the Clean Water Act (33 U.S.C. 1251 *et seq.*) to authorize States to regulate Federally owned or operated facilities under their water pollution control programs. Prior to the amendment, States, including those authorized pursuant to section 402(b) of the Clean Water Act to participate in the NPDES program, were precluded from regulating Federal Facilities.

With the passage of the 1977 amendments, EPA has been authorizing States to administer the NPDES program over Federal Facilities in approved States. Today's **Federal Register** notice is to announce the approval of the State of Connecticut's request to assume NPDES authority over Federal Facilities.

In support of its application to assume NPDES authority over Federal Facilities, the State of Connecticut has submitted to EPA copies of the relevant statutes and regulations. The State has also submitted a statement by the Attorney General certifying that the State has adequate legal authority to regulate Federal Facilities. EPA has concluded, upon reviewing all of these submitted materials, that the State has adequate authority to apply its approved State

NPDES and Pretreatment programs to Federal Facilities. The Regional Administrator has determined that this is not a substantial revision to Connecticut's program and therefore does not require publication of a proposal with public notice and opportunity for comment.

Federal Register Notice of Approval of State NPDES Programs or Modifications

EPA will provide **Federal Register** notice of any action by the Agency approving or modifying a State NPDES program. The following table will provide the public with an up-to-date list of the status of NPDES permitting authority throughout the country.

	Approved State NPDES permit program	Approved to regulate Federal facilities	Approved State pretreatment program
Alabama	10/19/79	10/19/79	10/19/79
Arkansas [1]	11/01/86	11/01/86	11/01/86
California	05/14/73	05/05/78	.....
Colorado [1]	03/27/75	.....	.....
Connecticut	09/26/73	01/09/89	06/03/81
Delaware	04/01/74	.....	.....
Georgia	06/28/74	12/09/78	03/12/81
Hawaii	11/28/74	06/01/79	08/12/83
Illinois [1]	10/23/77	09/20/79	.....
Indiana	01/01/75	12/09/78	.....
Iowa	08/10/78	08/10/78	06/03/81
Kansas	06/28/74	08/28/85	.....
Kentucky [1]	09/30/83	09/30/83	09/30/83
Maryland	09/05/74	11/10/87	09/30/85
Michigan	10/17/73	12/09/78	06/07/83
Minnesota [1]	06/30/74	12/09/78	07/16/79
Mississippi	05/01/74	01/28/83	05/13/82
Missouri	10/30/74	06/26/79	06/03/81
Montana [1]	06/10/74	06/23/81	.....
Nebraska	06/12/74	11/02/79	09/07/84
Nevada	09/19/75	08/31/78	.....
New Jersey [1]	04/13/82	04/13/82	04/13/82
New York	10/28/75	06/13/80	.....
North Carolina	10/19/75	09/28/84	06/14/82
North Dakota	06/13/75	.....	.....
Ohio	03/11/74	01/28/83	07/27/83
Oregon [1]	09/26/73	03/02/79	03/12/81
Pennsylvania	06/30/78	06/30/78	.....
Rhode Island [1]	09/17/84	09/17/84	09/17/84
South Carolina	06/10/75	09/26/80	04/09/82
Tennessee	12/28/77	.....	08/10/83
Utah [1]	07/07/87	07/07/87	07/07/87
Vermont	03/11/74	.....	03/16/82
Virgin Island	06/30/74	.....	.....
Virginia	03/31/75	02/09/82	.....
Washington	11/14/73	.....	09/30/86
West Virginia [1]	05/10/82	05/10/82	05/10/82
Wisconsin	02/04/74	11/26/79	12/24/80
Wyoming	01/30/75	05/18/81	.....

[1] State approved to issue general permits.

Review Under the Regulatory Flexibility Act and Executive Order 12291

Under the Regulatory Flexibility Act, 5 U.S.C. 601 *et seq.*, EPA is required to prepare a Regulatory Analysis for all rules which may have a significant impact on a substantial number of small entities. The approval of the Connecticut NPDES permit program to administer Federal Facilities merely transfers responsibility for administration of these facilities from the Federal to the State government. No new substantive requirements are established by this action. Therefore, this notice does not have a significant impact on a substantial number of small entities. It therefore does not trigger the requirement of a Regulatory Flexibility Analysis.

The Office of Management and Budget has exempted this rule from the requirements of section 3 of Executive Order 12291.

Michael R. Deland,

Regional Administrator, Region I.

[FR Doc. 89-2028 Filed 1-27-89; 8:45 am]

BILLING CODE 6560-50-M

FEDERAL MARITIME COMMISSION

[Docket No. 89-01]

Jugolinija; Possible Violations; Order of Investigation

Jugolinija is a vessel operating common carrier which operates non-conference container service from United States Ports and Points to Mediterranean and Middle East Ports and Points.

It appears that Jugolinija engaged in violations of sections 10(b)(1), 10(b)(3) and 10(b)(11) of the Shipping Act of 1984 ("Act" or "1984 Act"), 46 U.S.C. app. 1709(b)(1), 1709(b)(3) and 1709(b)(11), involving Jugolinija's foodstuffs and grocery rates to the Middle East from the United States during the period March 1985 through August 1987. It appears that on 539 shipments during that period, Jugolinija knowingly and willfully undercharged a single shipper by $570,404. It also appears that during that period, Jugolinija may have provided this shipper free transportation of empty containers from the Middle East to Italy as a concession for shipments from the United States to the Middle East in violation of sections 10(b)(3) and 10(b)(11) of the Act.

Now therefore it is ordered, that pursuant to sections 10, 11, and 13 of the 1984 Act, 46 U.S.C. app. 1709, 1710 and 1712, an investigation is hereby instituted to determine:

(1) Whether Jugolinija violated section 10(b)(1) of the Act, by charging, demanding, collecting or receiving greater, less or different compensation for the transportation of foodstuffs and grocery items from the United States to Middle East destinations than the rates and charges specified in its applicable tariff on file with the Commission during the period from March 1985 through August 1987; and whether such violations were knowing and willful;

(2) Whether Jugolinija violated section 10(b)(3) of the Act by extending or denying to any person any privilege, concession, equipment, or facility in connection with: (i) The transportation of foodstuffs and grocery items from the United States to Middle East destinations during the period from March 1985 through August 1987; and (ii) the transportation of empty shipper leased containers; and whether such violations were knowing and willful;

(3) Whether Jugolinija violated section 10(b)(11) of the Act by giving any undue or unreasonable preference or advantage to any particular person, locality, or description of traffic, in connection with: (i) The transportation of foodstuffs and grocery items from the United States to Middle East destinations during the period from March 1985 through August 1987; or (ii) the transportation of empty shipper leased containers; and whether such violations were knowing and willful;

(4) Whether, in the event Jugolinija is found to have violated section 10(b)(1), 10(b)(3) or 10(b)(11) of the Act, civil penalties should be assessed and, if so, the amount of such penalties;

(5) Whether, in the event Jugolinija is found to have violated section 10(b)(1) or 10(b)(3) of the Act, its tariffs should be suspended pursuant to section 13 of the Act;

(6) Whether, in the event Jugolinija is found to have violated section 10(b)(1), 10(b)(3), or 10(b)(11) of the Act, an appropriate cease and desist order should be issued;

It is further ordered, that a public hearing be held in this proceeding and that this matter be assigned for hearing before an Administrative Law Judge of the Commission's Office of Administrative Law Judges at a date and place to be hereafter determined by the Administrative Law Judge in compliance with Rule 61 of the Commission's Rules of Practice and Procedure, 46 CFR 502.61;

It is further ordered, that Jugolinija is designated Respondent in this proceeding;

It is further ordered, that the Commission's Bureau of Hearing Counsel is designated a party to this proceeding;

It is further ordered, that notice of this Order be published in the **Federal Register**, and a copy be served on parties of record;

It is further ordered, that other persons having an interest in participating in this proceeding may file petitions for leave to intervene in

accordance with Rule 72 of the Commission's Rules of Practice and Procedure, 46 CFR 502.72;

It is further ordered, that all further notices, orders, and/or decisions issued by or on behalf of the Commission in this proceeding, including notice of the time and place of hearing or prehearing conference, shall be served on parties of record;

It is further ordered, that in accordance with Rule 61 of the Commission's Rules of Practice and Procedure, the initial decision of the Administrative Law Judge shall be issued by January 18, 1990, and the final decision of the Commission shall be issued by May 18, 1990.

By the Commission.

Joseph C. Polking,

Secretary.

[FR Doc. 89-2063 Filed 1-27-89; 8:45 am]

BILLING CODE 6730-01-M

FEDERAL RESERVE SYSTEM

Agency Forms Under Review

January 24, 1989.

Background

Notice is hereby given of final approval of proposed information collection(s) by the Board of Governors of the Federal Reserve System (Board) under OMB delegated authority, as per 5 CFR 1320.9 (OMB Regulation on Controlling Paperwork Burdens on the Public).

FOR FURTHER INFORMATION CONTACT:

Federal Reserve Board Clearance Officer—Frederick J. Schroeder—Division of Research and Statistics, Board of Governors of the Federal Reserve System, Washington, DC 20551 (202-452-3822)

OMB Desk Officer—Gary Waxman—Office of Information and Regulatory Affairs, Office of Management and Budget, New Executive Office Building, Room 3208, Washington, DC 20503 (202-395-7340)

Final approval under OMB delegated authority of the extension, without revision, of the following report:

Report Title: Report of Claims on Selected Foreign Countries by U.S. Branches and Agencies of Foreign Banks

Agency Form Number: FR 2029B

OMB Docket Number: 7100-0064.

Frequency: Semiannually.

Reporters: U.S. branches and agencies of foreign banks

Annual Reporting Hours: 330

Estimated Number of Respondents: 55

Estimated Average Hours per Response: 3

Small businesses are not affected.

General Description of Report:

This information collection is voluntary (12 U.S.C. 3105(b)) and is given confidential treatment (5 U.S.C. 552(b)(4)).

U.S. branches and agencies of foreign banks report their claims on foreign countries semiannually. The Federal Reserve System provides the data to the Bank for International Settlements for the semi-annual survey of the maturity of bank lending.

Final approval under OMB delegated authority of a revision to the following report:

Report Title: Domestic Finance Company Report of Consolidated Assets and Liabilities

Agency Form Number: FR 2248.

OMB Docket Number: 7100-0005

Frequency: Monthly

Reporters: Domestic finance companies

Annual Reporting Hours: 2,045

Estimated Number of Respondents: 142

Estimated Average Hours per Response: 1.1 hours, except 1.4 hours in March, June, September, and December.

Small businesses are affected.

General Description of Report:

This information collection is voluntary (12 U.S.C. 225(a)) and is given confidential treatment (5 U.S.C. 552(b)(4)).

This report collects information on major categories of consumer and business credit extended by domestic finance companies and on major short-term liabilities outstanding. The key revision is the addition of five supplemental items that seek date on securitized financing receivables. Specifically, the new items request the outstanding balances of installment credit extended by the finance company that have been packaged and sold and included as collateral for an asset-backed security. The data on the report are used by the Federal Reserve for assessing aggregate credit market activity.

Board of Governors of the Federal Reserve System, January 24, 1989.

William W. Wiles,

Secretary of the Board.

[FR Doc. 89-2014 Filed 1-27-89; 8:45 am]

BILLING CODE 6210-01-M

Bank of New England Corp., Boston, MA; Proposal to Underwrite and Deal in Debt Securities to a Limited Extent

Bank of New England Corporation, Boston, Massachusetts, has applied, pursuant to section 4(c)(8) of the Bank Holding Company Act, ("BHC Act") (12 U.S.C. 1843(c)(8)) and § 225.23(a) of the Board's Regulation Y (12 CFR 225.23(a)), for permission for its subsidiary BNE Capital Markets, Inc., Boston, Massachusetts ("BNE Capital"), to underwrite and deal in, to a limited degree, all types of debt securities, including without limitation: (i) Corporate debt securities (including debt securities that are convertible into equity securities); (ii) asset backed securities that are secured by or represent interests in loans (both secured and unsecured), receivables and other forms of debt instruments; and (iii) governmental debt, including Canadian securities.

BNE Capital is currently authorized to underwrite and deal in, to a limited extent, 1-4 family mortgage backed securities, consumer-receivable-related securities, commercial paper and municipal revenue bonds ("ineligible securities"). *Bank of New England Corporation*, 74 Federal Reserve Bulletin 133 (1988). BNE Capital is also authorized to underwrite and deal in U.S. government securities pursuant to § 225.25(b)(16) of the Board's Regulation Y (12 CFR 225.25(b)(16)).

BNE Capital would underwrite and deal in debt securities within the framework of limitations established by the Board for the previously approved ineligible securities underwriting in *Citicorp, J.P. Morgan & Co. Incorporated and Bankers Trust New York Corporation*, 73 Federal Reserve Bulletin 473 (1987), *aff'd sub nom., Securities Industry Association* v. *Board of Governors of the Federal Reserve System*, 839 F.2d 47 (2d Cir. 1988), *cert. denied*, 108 S.Ct. 2830 (1988). These limitations include a 5 percent gross revenue limitation to ensure the company's ineligible underwriting and dealing would not result in a violation of section 20 of the Glass-Steagall Act (12 U.S.C. 377). Accordingly, under this application the amount of gross revenue BNE Capital would receive from the proposed new ineligible activity and the previously approved ineligible activity would not exceed, in the aggregate, 5 percent of the total gross revenues of BNE Capital.

Section 4(c)(8) of the BHC Act provides that a bank holding company may, with Board approval, engage in an activity "which the Board after due notice and opportunity for hearing has determined (by order or regulation) to be so closely related to banking as to be a proper incident thereto." The Board has previously determined that the proposed underwriting and dealing in all

types of debt securities is closely related and a proper incident to banking, subject to conditions. *J.P. Morgan & Co. Inc., et al.*, 75 Federal Reserve Bulletin (Order dated January 18, 1989).

Any request for a hearing on this application must comply with § 262.3(e) of the Board's Rules of Procedure (12 CFR 262.3(e)).

The application may be inspected at the offices of the Board of Governors or the Federal Reserve Bank of Boston.

Any comments or requests for hearing should be submitted in writing and received by William W. Wiles, Secretary, Board of Governors of the Federal Reserve System, Washington, DC 20551, not later than February 21, 1989.

Board of Governors of the Federal Reserve System, January 24, 1989.

William W. Wiles,

Secretary of the Board.

[FR Doc. 89-2015 Filed 1-27-89; 8:45 am]

BILLING CODE 6210-01-M

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Food and Drug Administration

[Docket No. 89N-0026]

Animal Drug Export; Yohimbine Hydrochloride Injection for Deer

AGENCY: Food and Drug Administration.

ACTION: Notice.

SUMMARY: The Food and Drug Administration (FDA) is announcing that Wildlife Laboratories, Inc., has filed an application requesting approval for the export of the animal drug Antagonil® (yohimbine hydrochloride) Sterile Injection for use in the deer family to Canada.

ADDRESS: Relevant information on this application may be directed to the Dockets Management Branch (HFA-305), Food and Drug Administration, Rm. 4-62, 5600 Fishers Lane, Rockville, MD 20857, and the contact person identified below. Any future inquiries concerning the export of human drugs under the Drug Export Amendments Act of 1986 should also be directed to the contact person.

FOR FURTHER INFORMATION CONTACT: Beverly E. Bartolomeo, Center for Veterinary Medicine (HFV-142), Food and Drug Administration, 5600 Fishers Lane, Rockville, MD 20857, 301-443-2855.

SUPPLEMENTARY INFORMATION: The Drug Export Amendments Act of 1986 (Pub. L. 99-660) (section 802 of the Federal Food, Drug, and Cosmetic Act (the act) (21 U.S.C. 382)) provides that FDA may approve applications for the export of drugs that are not currently approved in the United States. The approval process is governed by section 802(b) of the act. Section 802(b)(3)(B) of the act sets forth the requirements that must be met in an application for approval. Section 802(b)(3)(C) of the act requires that the agency review the application within 30 days of its filing to determine whether the requirements of section 802(b)(3)(B) have been satisfied. Section 802(b)(3)(A) of the act requires that the agency publish a notice in the **Federal Register** within 10 days of the filing of an application for export to facilitate public participation in its review of the application. To meet this requirement, the agency is providing notice that Wildlife Laboratories, Inc., P.O. Box 8938, Fort Collins, CO 80525, has filed an application requesting approval for the export of the animal drug Antagonil® (yohimbine hydrochloride) Sterile Injection for the deer family, to Canada. The drug is intended as an antagonist to xylazine immobilization of free-ranging or confined members of the deer family (Cervidae). The application was received and filed in the Center for Veterinary Medicine on January 19, 1989, which shall be considered the filing date for purposes of the act.

Interested persons may submit relevant information on the application to the Dockets Management Branch (address above) in two copies (except that individuals may submit single copies) and identified with the docket number found in brackets in the heading of this document. These submissions may be seen in the Dockets Management Branch between 9 a.m. and 4 p.m., Monday through Friday.

The agency encourages any person who submits relevant information on the application to do so by February 9, 1989, and to provide an additional copy of the submission directly to the contact person identified above, to facilitate consideration of the information during the 30-day review period.

This notice is issued under the Federal Food, Drug, and Cosmetic Act (sec. 802, Pub. L. 99-660 (21 U.S.C. 382)) and under authority delegated to the Commission of Food and Drugs (21 CFR 5.10) and redelegated to the Center for Veterinary Medicine (21 CFR 5.44).

Dated: January 19, 1989.

Robert C. Livingston,

Deputy Director, Office of New Animal Drug Evaluation, Center for Veterinary Medicine.

[FR Doc. 89-2121 Filed 1-27-89; 8:45 am]

BILLINC CODE 4160-01-M

[Docket No. 88N-0387]

Public Meeting; Seafood Safety as Related to Cooked and Processed Seafood

AGENCY: Food and Drug Administration.

ACTION: Notice.

SUMMARY: The Food and Drug Administration (FDA), Mid-Atlantic Region, is announcing a public meeting with the seafood industry and other interested persons to discuss a number of agency concerns relating to public health aspects of cooked and processed seafood.

DATE: The meeting will be held on Tuesday, February 14, 1989, from 9:30 a.m. to 3:30 p.m. Interested persons who will be unable to attend the meeting may submit written comments on the issues outlined in this notice within 60 days.

ADDRESSES: The meeting will be held in a conference room at the Quality Inn, 5801 Baltimore National Pike, Baltimore, MD. Submit written comments to the Dockets Management Branch (HFA-305), Food and Drug Administration, Rm. 4-62, 5600 Fishers Lane, Rockville, MD 20857, referencing the docket number found in the heading of this notice.

FOR FURTHER INFORMATION CONTACT: Jo-Ann Maguire, Food and Drug Administration (HFR-MA1), 900 U.S. Customhouse, 2d and Chestnut Sts., Philadelphia, PA 19106-2973, 215-597-0124.

SUPPLEMENTARY INFORMATION: The meeting is being sponsored by FDA's Mid-Atlantic Regional Office, in accordance with 21 CFR 10.65(b), to discuss with the seafood industry and other interested persons the agency's concerns, raised by its inspectional and analytical findings, relating to cooked and processed seafood.

Issues to be discussed will include:

1. Microbiological contamination of ready-to-eat or heat-and-serve seafood products.

2. Public health concerns relating to these products.

3. Improved processing practices for these products.

4. Strategies for protecting the consumer from associated health risks.

FDA is inviting all interested persons to participate in this meeting. Interested persons who will be unable to attend the meeting may submit to the Dockets Management Branch (address above) written comments that set forth their views on the issues outlined in this notice.

Dated: January 23, 1989.

Alan L. Hoeting,

Acting Associate Commissioner for Regulatory Affairs.

[FR Doc. 89-2040 Filed 1-27-89; 8:45 am]

BILLING CODE 4160-01-M

Public Health Service

Health Resources and Services Administration; Delegation of Authority; Bureau Directors

Notice is hereby given that in furtherance of the delegation of authority to the Administrator, Health Resources and Services Administration, on January 13, 1989, by the Assistant Secretary for Health, the Administrator has delegated all of the authorities delegated to the Administrator under section 319 of the Public Health Service Act (42 U.S.C. 247(d)), as amended, pertaining to Public Health Emergencies, to the Health Resources and Services Administration's Bureau Directors, without authority to redelegate, for the functions assigned to their bureaus.

Redelegation

Provision was made for delegations and redelegations under Title III of the Public Health Service Act to continue in effect.

Effective Date

This delegation became effective on January 13, 1989.

Date: January 13, 1989.

John H. Kelso,

Acting Administrator.

[FR Doc. 89-2041 Filed 1-27-89; 8:45 am]

BILLING CODE 4160-15-M

Health Resources and Services Administration; Delegation of Authority; Director, Bureau of Maternal and Child Health and Resources Development

Notice is hereby given that in furtherance of the delegation of authority to the Administrator, Health Resources and Services Administration, on January 18, 1989, by the Assistant Secretary for Health, the Administrator has delegated all of the authorities under Title XIX, Part D, of the Public Health Service Act, as amended, pertaining to the Immunosuppressive Drug Therapy Block Grant, to the Director, Bureau of Maternal and Child Health and Resources Development, with authority to redelegate, excluding the authorities to issue regulations, to submit reports to Congress or a congressional committee, to establish advisory committees and councils, and to appoint members to advisory committees and councils.

Redelegation

Provision was made for all previous delegations and redelegations under Title XIX of the Public Health Service Act to continue in effect.

Effective Date

This delegation became effective on January 18, 1989.

Date: January 18, 1989.

John H. Kelso,

Acting Administrator.

[FR Doc. 89-2042 Filed 1-27-89; 8:45 am]

BILLING CODE 4160-15-M

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Office of the Assistant Secretary for Housing-Federal Housing Commissioner

[Docket No. N-89-1917; FR 2606]

Unutilized and Underutilized Federal Buildings and Real Property Determined by HUD To Be Suitable for Use for Facilities To Assist the Homeless

AGENCY: Office of the Assistant Secretary for Housing-Federal Housing Commissioner, HUD.

ACTION: Notice.

SUMMARY: This notice identifies unutilized and underutilized Federal property determined by HUD to be suitable for possible use for facilities to assist the homeless.

DATE: January 30, 1989.

ADDRESS: For further information, contact Morris Bourne, Director, Transitional Housing Development Staff, Room 9140, Department of Housing and Urban Development, 451 Seventh Street, SW., Washington, DC 20410; telephone (202) 755-9075; TDD number for the hearing- and speech-impaired (202) 426-0015. (These telephone numbers are not toll-free.)

SUPPLEMENTARY INFORMATION: In accordance with the December 12, 1988, court order in *National Coalition for the Homeless v. Veterans Administration*, D.C.D.C. No. 88-2503-OG, HUD publishes a notice, on a weekly basis, identifying Federal buildings and real property determined by HUD to be suitable for use for facilities to assist the homeless. The first notice was published on January 9, 1989 (54 FR 667). Today's notice is for the purpose of announcing that no additonal properties have been determined suitable this week.

Dated: January 23, 1989.

James E. Schoenberger,

General Deputy Assistant Secretary for Housing-Federal Housing Commissioner.

[FR Doc. 89-1980 Filed 1-27-89; 8:45 am]

BILLING CODE 4210-27-M

DEPARTMENT OF THE INTERIOR

Office of the Secretary

Privacy Act of 1974; Revision of Notice of System of Records

Pursuant to the provisions of the Privacy Act of 1974, as amended (5 U.S.C. 552a), notice is hereby given that the Department of the Interior is revising a notice describing a system of records maintained by the Office of Administrative Services in the Office of the Secretary. All changes being published are editorial in nature, and reflect organization changes and other minor administrative revisions which have occurred since the publication of the material in the **Federal Register** on July 15, 1986 (51 FR 25612). The revised notice is published in its entirety below.

Since these changes do not involve any new or intended use of the information in the system of records, the notice shall be effective on January 30, 1989. Additional information regarding these revisions may be obtained from the Department Privacy Act Officer, Office of the Secretary (PMI), room 2242, Main Interior Building, U.S. Department of the Interior, Washington, DC 20240.

Oscar W. Mueller, Jr.,

Director, Office of Management Improvement.

Date: January 23, 1989.

INTERIOR/OR-51

SYSTEM NAME:

Property Accountability and Control System—Interior, Office of the Secretary—51.

SYSTEM LOCATION:

Property Management Section, Branch of Office Services, Division of General Services, Office of Administrative Services (PMO), Office of the Secretary, U.S. Department of the Interior, Washington, D.C. 20240.

CATEGORIES OF INDIVIDUALS COVERED BY THE SYSTEM:

Individuals designated as Custodial Officers in the Office of the Secretary, Other Departmental Offices, and Independent Agencies, Councils, and Commissions who are provided administrative support and who are

charged with the care, utilization, recordkeeping, etc., for property assigned to them.

CATEGORIES OF RECORDS IN THE SYSTEM:

The records system contains computer identification codes for each Custodial Officer and descriptive data about each piece of property (excluding supplies) assigned.

AUTHORITY FOR MAINTENANCE OF THE SYSTEM:

40 U.S.C. 483

ROUTINE USES OF RECORDS MAINTAINED IN THE SYSTEM, INCLUDING CATEGORIES OF USERS AND THE PURPOSES OF SUCH USES:

The primary use of the records is the internal control of property assigned to offices. Disclosures outside the Department are (1) to the U.S. Department of Justice or in a proceeding before a court or adjudicative body when (a) the United States, the Department of the Interior, a component of the Department, or, when represented by the government, an employee of the Department is a party to litigation or anticipated litigation or has an interest in such litigation, and (b) the Department of the Interior determines that the disclosure is relevant or necessary to the litigation and is compatible with the purpose for which the records were compiled, (2) of information indicating a violation or potential violation of a statute regulation, rule, order or license, to appropriate Federal, State, local or foreign agencies responsible for investigating or prosecuting the violation or for enforcing or implementing the statute, rule, regulation, order or license, (3) to respond to General Accounting Office audits, and (4) to a Member of Congress from the record of an individual in response to an inquiry made at the request of that individual.

POLICIES AND PRACTICES FOR STORING, RETRIEVING, ACCESSING, RETAINING, AND DISPOSING OF RECORDS IN THE SYSTEM:

SOTRAGE:

Records are maintained on computer media.

RETRIEVABILITY:

System is indexed by code assigned to each Custodial Officer or by various property system codes.

SAFEGUARDS:

Maintained with safeguards meeting the Computer Security Guidelines for Implementing the Privacy Act of 1974 and the Computer Security Act of 1987.

SAFEGUARDS:

Maintained with safeguards meeting the Computer Security Guidelines for Implementing the Privacy Act of 1974 and the Computer Security Act of 1987.

RETENTION AND DISPOSAL:

Retained and disposed of in accordance with General Records Schedule No. 3, Item No. 10a.

SYSTEM MANAGER(S) AND ADDRESS:

Chief, Property Management Section, Branch of Office Services, Office of Administrative Services, U.S. Department of the Interior, Washington, D.C. 20240.

NOTIFICATION PROCEDURE:

A written and signed request stating that the requester seeks information concerning records pertaining to him/her. See 43 CFR 2.60.

RECORD ACCESS PROCEDURES:

Submit requests to the System Manager. The request must be in writing, signed by the requester, and meet the content requirements of 43 CFR 2.63.

CONTESTING RECORD PROCEDURES:

A petition for amendment shall be addressed to the System Manager and must meet the requirements of 43 CFR 2.71.

RECORD SOURCE CATEGORIES:

Custodial Officer who is assigned the property by code.

[FR Doc. 89-2058 Filed 1-27-89; 8:45 am]

BILLING CODE 4310-WA-M

Bureau of Indian Affairs

Request for Applications for Planning of Detention Centers

January 13, 1989.

ACTION: Extension of application deadline for planning of detention facilities.

SUMMARY: This notice extends the deadline for filing applications for Planning of New Institutions for construction or renovation of detention facilities in Indian country. The notice requesting applications was published in the **Federal Register** on December 9, 1988, (Vol. 53 No. 237 Page 49796) and set the deadline at 45 days after the publication of the notice (January 23, 1989). This notice extends the deadline to February 13, 1989.

FOR FURTHER INFORMATION CONTACT: Mr. Warren D. LeBeau, Staff Assistant–Detention, Division of Law Enforcement Services, (602) 629–5406 or Mr. Robert Montoya, Facility Management and Construction Center, (505) 766–2846.

Ross O. Swimmer,

Assistant Secretary—Indian Affairs.

[FR Doc. 89-2008 Filed 1-27-89; 8:45 am]

BILLING CODE 4310-02-M

Description of Lands To Be Held in Trust for the Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation, CA

December 29, 1988.

AGENCY: Bureau of Indian Affairs, Interior.

ACTION: Notice of lands to be held in trust and made part of the Pechanga Reservation.

This notice is published in the exercise of authority delegated from the Secretary of the Interior to the Assistant Secretary—Indian Affairs at 209 DM 8.1.

SUMMARY: This notice is published pursuant to section 2 of the Act of August 8, 1988, Pub. L. 100-381, 102 Stat. 897. Pursuant to section 1 of the act, title to the following described land was declared to be held in trust by the United States for the use and benefit of the Pechanga Band of Luiseno Mission Indians of California, and such land was declared to be a part of the Pechanga Indian Reservation.

San Bernadino Meridian, Riverside County, California.

Lot "E" of the Little Temecula Rancho, more particularly described as follows: "Commencing at a stake marked 'T .5' of the Little Temecula Rancho, so called and known, and running thence North 52 degrees 45 minutes East, 3,500 feet; thence North 52 degrees 40 minutes West; thence South 42 degrees 40 minutes West, 3,436 feet and thence South 47 degrees 20 minutes East 2,679.84 feet to the place of the beginning, containing two hundred thirty-five (235) acres of land, and also from the water appurtenant to said parcel of land, including the water from the spring on the public land which is situated adjoining the Southwesterly line of said specifically described tract, which comprises all that part of said Little Temecula Rancho set off and allotted to William Wolf by decree dated April 14, 1982. Together with the tenements, hereditaments and appurtenances thereto belonging, or in anywise appertaining; and also all their estate, right, title and interest, at law

and equity therein and thereto, including the rents, issues and profits thereof."

W.P. Ragsdale,

Acting Assistant Secretary—Indian Affairs.

[FR Doc. 89-2009 Filed 1-27-89; 8:45 am]

BILLING CODE 4310-02-M

Minerals Management Service

Outer Continental Shelf Advisory Board; North, Mid-, and South Atlantic Regional Technical Working Groups; Nominations

AGENCY: Minerals Management Service, Interior.

ACTION: Recruitment of Discretionary Members for North, Mid-, and South Atlantic Regional Technical Working Groups.

SUMMARY: The Atlantic Outer Continental Shelf (OCS) Region is accepting nominations to fill discretionary member vacancies on the North, Mid-, and South Atlantic Regional Technical Working Group (RTWG) Committees. Technical expertise is needed in the areas of marine biology/oceanography, ecology/environment, and fisheries management.

Nomination packages should consist of a letter explaining the nominee's qualifications and how the individual would contribute to the effectiveness of the RTWG Committees, and a current resume or biographical profile.

DATE: The deadline for receipt of nominations is March 1, 1989.

ADDRESSES: Nomination packages should be submitted to RTWG Coordinator, Atlantic OCS Region, Minerals Management Service, 1951 Kidwell Drive, Suite 601, Vienna, 22182.

FOR FURTHER INFORMATION CONTACT: Angela Calos, RTWG Coordinator, Atlantic OCS Region at the above address; telephone (703) 285-2165, (FTS) 285-2165.

SUPPLEMENTARY INFORMATION: The RTWG's are part of the OCS Advisory Board and were established to advise the Minerals Management Service (MMS) Diector on technical matters of regional concern regarding offshore prelease and postlease sale activities. The RTWG membership consists of representatives from Federal agencies, the Coastal States of Maine through Florida, the petroleum industry, and other private interests. The RTWG discretionary members serve a 2-year term. Each RTWG committee meets at least twice a year.

Appointments will be made by the Secretary of the Interior with the objective of achieving a balance of viewpoint and a range of technical expertise of regional OCS activities.

Date: January 18, 1989.

Bruce G. Weetman,

Regional Director, Atlantic OCS Region.

[FR Doc. 89-2006 Filed 1-27-89; 8:45 am]

BILLING CODE 4310-MR-M

National Park Service

National Park System Advisory Board; Administrative Extension

Notice is hereby given in accordance with the Federal Advisory Committee Act, Pub. L. 92-463, section 14, that the National Park Service Advisory Board has been extended administratively through December 31, 1990.

The Board is presently a statutory board established by the Historic Sites Act of 1935 (16 U.S.C. 463, as amended) to "advise the Secretary on matters relating to the National Park System, to other related areas, and to the administration of this Act * * * "(Historic Sites Act)"; and a 1976 amendment to the Act extended the Board by statute to January 1, 1989. Having found the Board to be of considerable value to the Department, I am taking this action to assure that its function will continue for an additional year beyond the legislative expiration date. I expect that the Congress will have made a determination to statutorily extend the Board well before December 31, 1989.

Donald Paul Hodel,

Secretary of the Interior.

[FR Doc. 89-2069 Filed 1-27-89; 8:45 am]

BILLING CODE 4310-70-M

DEPARTMENT OF JUSTICE

Information Collections Under Review

January 25, 1989.

The Office of Management and Budget (OMB) has been sent the following proposals for the collection of information for review under the provisions of the Paperwork Reduction Act (44 U.S.C. Chapter 35) and the Paperwork Reduction Reauthorization Act since the last list was published. Entries are grouped into submission categories. Each entry contains the following information: (1) The title of the form or collection; (2) the agency form number, if any, and the applicable component of the Department sponsoring the collection; (3) how often the form must be filled out or the information is collected; (4) who will be asked or required to respond, as well as a brief abstract; (5) an estimate of the total number of respondents and the amount of time estimated for an average respondent to respond; (6) an estimate of the total public burden (in hours) associated with the collection; and, (7) an indication as to whether section 3504(h) of Pub. L. 96-511 applies. Comments and/or suggestions regarding the item(s) contained in this notice, especially those regarding the estimated response time, should be directed to the OMB reviewer, Mr. Sam Fairchild, on (202) 395-7340 and to the Department of Justice's Clearance Officer, Mr. Larry E. Miesse, on (202) 633-4312. If you anticipate commenting on a form/collection, but find that time to prepare such comments will prevent you from prompt submission, you should so notify the OMB reviewer and the DOJ Clearance Officer of your intent as soon as possible. Written comments regarding the burden estimate or any other aspect of the collection may be submitted to Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503, and to Mr. Larry E. Miesse, DOJ Clearance Officer, SPS/JMD/5031 CAB, Department of Justice, Washington, DC 20530.

Revision of a Currently Approved Collection

(1) Report of Public Safety Officer's Death.

(2) OJP Admin form 3650/6. Bureau of Justice Assistance, Office of Justice Programs.

(3) One-time.

(4) State or local governments, Federal agencies or employees. This form is filed by agency of public safety officer killed in the line of duty with the Bureau of Justice Assistance as part of claim for survivors' benefits under the Public Safety Officers' Benefits Act.

(5) 320 respondents at 2.03 hours per response.

(6) 650 estimated annual burden hours.

(7) Not applicable under section 3504(h).

(1) Claim for Death Benefit.

(2) OJP Admin form 3650/5. Bureau of Justice Assistance, Office of Justice Programs.

(3) One time.

(4) Individuals or households. Form is filed by survivors of a public safety officer killed in the line of duty to obtain benefits under the Public Safety Officers' Benefits Act.

(5) 320 respondents at 1.05 hours per response.

(6) 336 estimated annual public burden hours.

(7) Not applicable under section 3504(h).

Reinstatement of a Previously Approved Collection for Which Approval Has Expired

(1) The Jail Inmate Survey.

(2) SIJ–43, SIJ–50. Bureau of Justice Statistics.

(3) Other, quinquennially (approximate).

(4) Individuals or households, State or local governments. Data used to profile jail inmates, determine trends in inmate characteristics, examine criminal and substance abuse history as it relates to criminal activity, to develop data on conditions of inmate housing and its effects, and to report on the victims of crime as described by jail inmates.

(5) 6,400 respondents at .75 hours each.

(6) 4,800 estimated annual public burden hours.

(7) Not applicable under section 3504(h).

Larry E. Miesse,

Department Clearance Officer, Department of Justice.

[FR Doc. 89–2075 Filed 1–27–89; 8:45 am]

BILLING CODE 4410–18–M

DEPARTMENT OF LABOR

Pension and Welfare Benefits Administration

[Application No. D–7590 et al.]

Proposed Exemptions; Restated Profit Sharing Plan and Trust Agreement of Anesthesiologists Associated of Rome, P.A., et al.

AGENCY: Pension and Welfare Benefits Administration, Labor.

ACTION: Notice of proposed exemptions.

SUMMARY: This document contains notices of pendency before the Department of Labor (the Department) of proposed exemptions from certain of the prohibited transaction restrictions of the Employee Retirement Income Security Act of 1974 (the Act) and/or the Internal Revenue Code of 1954 (the Code).

Written Comments and Hearing Requests

All interested persons are invited to submit written comments or requests for a hearing on the pending exemptions, unless otherwise stated in the Notice of Pendency, within 45 days from the date of publication of this **Federal Register** Notice. Comments and requests for a hearing should state the reasons for the writer's interest in the pending exemption.

ADDRESS: All written comments and requests for a hearing (at least three copies) should be sent to the Pension and Welfare Benefits Administration, Office of Regulations and Interpretations, Room N–5671, U.S. Department of Labor, 200 Constitution Avenue, NW., Washington, DC 20210. Attention: Application No. stated in each Notice of Pendency. The applications for exemption and the comments received will be available for public inspection in the Public Documents Room of Pension and Welfare Benefit Programs, U.S. Department of Labor, Room N–5507, 200 Constitution Avenue, NW., Washington, DC 20210.

Notice to Interested Persons

Notice of the proposed exemptions will be provided to all interested persons in the manner agreed upon by the applicant and the Department within 15 days of the date of publication in the **Federal Register**. Such notice shall include a copy of the notice of pendency of the exemption as published in the **Federal Register** and shall inform interested persons of their right to comment and to request a hearing (where appropriate).

SUPPLEMENTARY INFORMATION: The proposed exemptions were requested in applications filed pursuant to section 408(a) of the Act and/or section 4975(c)(2) of the Code, and in accordance with procedures set forth in ERISA Procedure 75–1 (40 FR 18471, April 28, 1975). Effective December 31, 1978, section 102 of Reorganization Plan No. 4 of 1978 (43 FR 47713, October 17, 1978) transferred the authority of the Secretary of the Treasury to issue exemptions of the type requested to the Secretary of Labor. Therefore, these notices of pendency are issued solely by the Department.

The applications contain representations with regard to the proposed exemptions which are summarized below. Interested persons are referred to the applications on file with the Department for a complete statement of the facts and representations.

Restated Profit Sharing Plan and Trust Agreement of Anesthesiologists Associated of Rome, P.A. (the Plan) Located in Rome, Georgia

[Application No. D–7590]

Proposed Exemption

The Department is considering granting an exemption under the authority of section 408(a) of the Act and section 4975(a)(2) of the Code and in accordance with the procedures set forth in ERISA Procedures 75–1 (40 FR 18471, April 28, 1975). If the exemption is granted the restrictions of section 406(a), 406 (b)(1) and (b)(2) of the Act and the sanctions resulting from the application of section 4975 of the Code, by reason of section 4975(c)(1) (A) through (E) of the Code shall not apply to the proposed cash sale by the Plan of certain real property located in Rome, Georgia to Park Professional Place (the Partnership), a partnership which is a party in interest with respect to the Plan; provided that all terms of such transaction are at least as favorable to the Plan as those which the Plan could obtain in an arm's-length transaction with an unrelated party.

Summary of Facts and Representations

1. The Plan is a defined contribution plan with 20 participants and toal assets of $378,177 as of April 30, 1988. The Plan is sponsored by the Anesthesiologists Associated of Rome, P.A. (the Employer), a Georgia professional association engaged in a specialty medical practice in Rome, Georgia. The trustees of the Plan are Larry R. Cauthen, M.D. (Dr. Cauthen), Louise S. Hajosy, M.D., and Elaine L. Hajosy, M.D. (collectively, the Trustees). The Partnership is a Georgia general partnership whose partners (the Partners) are the Trustees and William Atha, M.D. Each of the Partners is a shareholder/employee of the Employer except Dr. Cauthen, a former shareholder/employee who remains as a Trustee.

2. Among the Plan's assets ia a parcel of land (the Land) located at 13–A John Maddox Drive in Rome, Georgia. The Land features approximately eighty feet of street frontage and constitutes approximately one-third of an acre. The Plan acquired the Land in an unimproved state and has leased it continuously to the Partnership under a net lease (the Lease) effective July 7, 1972. The Lease provides for an initial term of fifteen years, renewable for up two additional terms of five years each.

The Lease includes provisions which authorize the Partnership's construction of improvements on the Land and state that ownership of any such improvements would pass to the Plan upon expiration or termination of the Lease. Pursuant to such provisions, the Partnership constructed a medical office building and parking lot (the Improvements) on the Land and immediately commenced leasing the Improvements and subleasing the Land (the Sublease) to the Employer. The

Employer occupies the Land and the Improvements as its principal place of business. The Employer represents that the Lease and the Sublease were exempt until June 30, 1984 from the prohibitions of section 406 of the Act by virtue of section 414 of the Act.[1]

The Lease and Sublease have continued after June 30, 1984. In order to terminate the ongoing Lease and Sublease, the Trustees propose to sell the Land to the Partnership. Since the Lease has become unenforceable due to the expiration of the protections afforded by section 414 of the Act on June 30, 1984, the Partnership recognizes that the Plan has acquired a property interest in the Improvements as a result of such expiration and that the Partnership's proposed purchase of the Land must include the purchase of the Plan's interest (the Interest) in the Improvements. The Trustees are requesting an exemption to permit such sale transaction under the terms and conditions described herein.

3. The Partnership will pay the Plan a cash purchase price for the Land and the Interest and will bear all costs and expenses related to the sale transaction. For the Plan's fee simple interest in the Land, the purchase price will be the greater of $30,000 or the appraised fair market value of the Land on the sale date. As of June 3, 1988, the fair market value of the unencumbered fee simple title in the Land was $30,000, according to Charles E. Griffin, Sr. (Griffin), an independent professional real estate appraiser in Rome, Georgia. Another independent professional real estate appraiser, Ben Lucas (Lucas) of Rome, Georgia, also determined that the Land had a fair market value of $30,000 as of August 23, 1988.

For the Interest, the proposed purchase price will be cash in the amount of no less than the fair market value of the Interest. In order to determine the nature and value of the Interest, the Trustees appointed the First Bank of Rome, Georgia (the Bank), which represents that it is independent of and unrelated to the Employer and the Partnership except as trustee of a defined benefit plan maintained by the Employer. The Bank was also appointed to oversee the consummation of the proposed transaction to ensure, if the exemption is granted, that the transaction proceeds as described herein.

The Bank represents that after research and consultation with legal counsel over the application of Georgia law, it has determined that the nature of the Interest, which the Plan acquired as of June 30, 1984, as properly characterized as a reversionary interest in the Improvements rather than a fee simple interest therein. According to Joseph W. Walker, SRA, MAI (Walker), a professional real estate appraiser in Atlanta, Georgia, the fair market value of the Interest is appropriately determined by discounting the present fair market value of the Improvements over the remaining term under the Lease by the applicable prevailing mortgage rate. The Bank represents that it has determined that this is the proper method of calculating the purchase price of the Interest and that it will ensure that the Plan is appropriately and adequately compensated in the proposed transaction for its property interest in the Improvements under applicable Georgia law. According to Lucas, the Improvements has a fair market value of $71,100 as of August 23, 1987. The Employer represents that the calcuation of the purchase price of the Interest will be based on a fair market valuation of the Improvements of no less than $71,100. Therefore, it is proposed that the Employer pay the Plan a total cash purchase price for its interests in the Land and Improvements in the amount of (1) the greater of the Land's fair market value as of the sale date or $30,00 plus (2) no less than $71,100 discounted over the Lease's remaining term by the prevailing applicable mortgage rate as determined by the Bank.

4. The Bank represents that it has also investigated and considered whether the Plan has received fair market rentals under the Lease for its interests in the Land and the Improvements since June 30, 1984. The Bank maintains that there should have been an upward adjustment of the rentals paid to the Plan under the Lease as of June 30, 1984, the date on which the Interest arose in favor of the Plan, but that there was no such upward adjustment made by the parties. For this reason, the Bank represents that it undertook to determine the amount in which rentals paid to the Plan since June 30, 1984 have been deficient and has determined such deficiency to be in the amount of $4,677 as of October 28, 1988. The Partnership agrees, as part of the proposed transaction, to pay the Plan the difference between the rentals actually paid to the Plan and the fair market rentals which the Plan should have been paid for the period commencing July 1, 1984 to the date of the proposed sale transaction, such amount to be cash of no less than $4,677, together with interest on such amount at a rate determined by the Bank to be appropriate to compensate the Plan for lost income on the rental underpayment.

5. The Department is not proposing herein any exemptive relief with respect to the continuation of the Lease after June 30, 1984 to the date of the proposed sale transaction. Accordingly, within 60 days of the publication in the **Federal Register** of a final grant of the exemption proposed herein, if granted, the Partnership will pay to the Internal Revenue Service all excise taxes which are applicable under section 4975(a) of the Code by reason of the continuation of the subject lease arrangements past June 30, 1984.

6. In summary, the applicants represent that the criteria of section 408(a) of the Act are satisfied in the proposed transaction for the following reasons: (1) The Plan will receive cash for (a) the full fee simple title in the Land in the amount of the Land's fair market value as of the date of the sale transaction, in no event less than $30,000, and (b) the fair market value of the Interest in an amount no less than $71,100 discounted over the remaining term of the Lease by the prevailing applicable mortgage rate as determined by the Bank; (2) The Plan will recover back rent due under the Lease, representing the difference between rentals actually paid to the Plan and the fair market rentals which should have been paid, plus interest thereon; (3) The Partnership will pay all costs and expenses related to the proposed transaction; (4) The proposed transaction will terminate an ongoing prohibited transaction, the continuation of the Lease after June 30, 1984; (5) The Bank will oversee the proposed transaction to ensure that it proceeds as described herein; and (6) The Bank has determined that the proposed transaction will constitute an appropriate disposition of the Plan's property interests in the Land and Improvements as determined in accordance with applicable state law and that the proposed terms of the sale reflect the appropriate valuation of those interests.

For Further Information Contact: Ronald Willett of the Department, telephone (202) 523-8881. (This is not a toll-free number.)

Telephone Real Estate Equity Trust (the Trust). Located in New York, NY

[Application No. D-7745]

Proposed Exemption

The Department is considering granting an exemption under the authority of section 408(a) of the Act

[1] The Department expresses no opinion as to whether the Lease and Sublease satisfied the requirements of section 414 of the Act.

and section 4975(c)(2) of the Code and in accordance with the procedures set forth in ERISA Procedure 75–1 (40 FR 18471, April 28, 1975). If the exemption is granted, the restrictions of section 406(a) of the Act and the sanctions resulting from the application of section 4975 of the Code, by reason of section 4975(c)(1) (A) through (D) of the Code shall not apply to: (1) the past and continued leasing of commercial office space (Lease One and Lease Two) in One Riverwalk Place (the Property), located in San Antonio, Texas, by One Riverwalk Center Joint Venture (the Joint Venture), an entity in which the Trust indirectly owns a 74 percent interest, to Smith, Barshop, Stouffer and Millsap, Inc. (Smith Barshop), a party in interest with respect to the Trust and employee benefit plans participating in the Trust (the Plans); (2) the proposed amendments, renewals or extensions by the Joint Venture to Smith Barshop of Lease One and Lease Two; and (3) the proposed leasing of commercial office space (the Future Leases)[2] in the Property to other persons or entities that may be parties in interest with respect to the Trust and the Plans (except for fiduciaries with respect to the Property)[3] including amendments, renewals or extensions by the Joint Venture of such Future Leases, provided that the terms and conditions of any Leases subject to this exemption are at least as favorable to the Trust as those which the Trust could obtain in arm's-length transactions with unrelated parties; and provided further that any such Leases, including any amendments, renewals or extensions thereof, are approved on behalf of the Trust by Eastdil Advisers, Inc. (Eastdil).

Effective Date: If granted, this proposed exemption will be effective June 2, 1982 with respect to Lease One and January 1, 1987 with respect to Lease Two. In addition, this proposed exemption will be temporary in nature and will not apply to any Leases which are originated after five years from the date on which the Final Grant of this proposed exemption is published in the **Federal Register**.

Summary of Facts and Representations

1. The parties involved in the subject transactions are as follows:

a. The Trust is a group trust qualified under section 401(a) of the Code pursuant to Revenue Ruling 81–100. The Trust is utilized for the investment, on an undivided basis, of certain real estate assets of its participating plans. The Plans are employee benefit plans established by seven regional holding companies resulting from the reorganization of AT&T and its subsidiaries pursuant to the Plan of Reorganization approved by the United States District Court for the District of Columbia in the matter of *United States v. Western Electric Co., Inc., et al.* (Civil Action No. 82–0192). The assets of predecessor entities to the Plans were formerly held in the Bell System Pension Plan Trust (the BSPP) and the Bell System Management Plan Trust (the BSMPP). On January 1, 1984, the trusts for the BSPP and the BSMPP were merged into the Bell System Trust (the BST). Substantially all of the non-real estate assets in the BST were transferred to a new AT&T trust. The BST, which retained the real estate assets, was amended and restated as the Trust. As of January 1, 1986, the Trust covered approximately 1,226,000 participants. As of December 31, 1987, the Trust had assets having an approximate fair market value of $3.99 billion.

b. AT&T, the named fiduciary of the Trust, is a corporation organized and incorporated in the State of New York with its headquarters located in New York City. AT&T's business objective is to meet customer needs, both within the United States and in foreign markets, for voice and data information movement and management. AT&T, through several lines of business, provides a wide variety of national and international telecommunications services. AT&T also designs, manufactures, markets and services transmission and switching equipment, central office products, apparatus for use in residential and business markets, computers and products and services sold primarily to the Department of Defense and related agencies. The primary business of the seven regional holding companies and their subsidiaries, which maintain plans participating in the Trust, is the furnishing of exchange telecommunications and exchange access services within specific geographic areas. The regional holding companies are also active in the provision of advanced mobile communications services as well as publishing and marketing of telecommunications equipment.

c. Eastdil is a Delaware corporation and a New York City-based investment adviser registered under the Investment Advisers Act of 1940, as amended. Eastdil is a wholly owned subsidiary of Eastdil Realty, Inc. Eastdil was incorporated in 1978 for the purpose of investing in and managing real estate assets for large pension plans. Eastdil manages approximately $1 billion in pension plan assets primarily on an individual account basis but also on a pooled basis. Investments made by Eastdil on behalf of such plans consist mostly of multitenant commercial and industrial properties. As of December 31, 1987, Eastdil was managing approximately $450 million of the assets of the Trust. Eastdil is totally unrelated to the parties involved in the subject transactions.

d. Rivertel (Rivertel) is a Delaware corporation wholly-owned by the Trust and exempt from Federal income taxation under section 501(c)(2) of the Code. Rivertel was organized by Eastdil as investment manager for the Trust for the purpose of holding the Trust's interest in the Joint Venture described herein, to collect the income therefrom and to distribute such income to the Trust. All of the officers and directors of Rivertel are employees of Eastdil. As trustee on behalf of the Trust, all of the stock of Rivertel is held by State Street Bank and Trust Company, a Massachusetts banking corporation with its principal office in Boston, Massachusetts.

e. The Joint Venture is an entity formed on November 19, 1981 by and between Rivertel and Riverwalk Center Joint Venture (RCJV). The Joint Venture was formed to take title to, operate, lease, dispose of and otherwise deal with the Property, the sole asset of the Joint Venture. The Joint Venture maintains its principal office at 1900 One Riverwalk Place, 700 North St. Mary's Street, San Antonio, Texas. Rivertel has a 74 percent equity interest in the Joint Venture. RCJV, the other coventurer which holds a 26 percent equity interest in the Joint Venture, is an entity comprised of two other joint ventures. To the best of Eastdil's knowledge, neither RCJV nor any of its Joint Venture partners has ever been a party in interest with respect to the Trust or any of the participating Plans.

f. Smith Barshop is a full service law firm with fourteen attorneys. Its sole office is located in the building comprising the Property. Smith Barshop leases office space in the Property from the Joint Venture. By virtue of performing legal services for the Joint Venture, Smith Barshop has become a party in interest with respect to the Trust and the Plans under section 3(14) of the Act. Smith Barshop has no discretionary authority or responsibility

[2] Lease One, Lease Two and the Future Leases are collectively referred to as the Leases.

[3] The term "fiduciary", as used here, includes the American Telephone and Telegraph Company (AT&T) and its affiliates and Eastdil Advisers, Inc. and its affiliates.

with respect to the Property. In addition, Smith Barshop has no affiliation with Eastdil.

2. Among the assets that are indirectly owned by the Trust is the Property which consists of an eighteen-story commercial office building and adjacent parking lot. The Property is located at 700 North St. Mary's Drive, San Antonio, Texas and contains 263,623 square feet. The Property is the sole asset of the Joint Venture. RCJV was responsible for the development, construction and ownership of the Property prior to the formation of the Joint Venture. Upon the formation of the Joint Venture in November 1981, Rivertel contributed $17.2 million in cash. RCJV contributed the Property and $1.1 million in cash. The Property is not currently encumbered by a mortgage.

3. The Joint Venture Agreement provides under section 6.2 that all leases of space in the Property must be in form and substance satisfactory to Rivertel and all tenants must be satisfactory in all respects to Rivertel. Section 6.2 of the Joint Venture Agreement also requires that all leases must be submitted to Rivertel at least ten business days prior to the anticipated execution date thereof and Rivertel has the right to approve or disapprove of such leases in its sole discretion. Based upon the Joint Venture Agreement, approximately 76 percent of the office space in the Property is leased, primarily to unrelated parties. Aside from the Smith Barshop Leases which are described below, to the best of Eastdil's knowledge, no other parties in interest lease space in the Property.

4. On June 2, 1982, the Joint Venture entered into a lease agreement with Davis and Smith Incorporated, a law firm which became known as Smith Barshop in 1986. Lease One provided for occupancy beginning August 1, 1982 with respect to the leased premises and was to terminate on July 31, 1987. Smith Barshop was also given options to renew such lease for two five year terms on practically the same terms and conditions as provided in Lease One.

Under Lease One, Smith Barshop leased approximately 6,672 rentable square feet of office space or approximately 2.5 percent of the space in the Property. The base rental was subject to periodic upward adjustments that were proportionate to increases in the operating expenses and real estate taxes associated with the Property. The Joint Venture was also permitted to terminate Lease One if Smith Barshop engaged in an "event of default" which included the nonpayment of rent.

5. After arm's-length negotiations between Smith Barshop and the Joint Venture, the parties entered into Lease Two effective January 1, 1987. The demised premises under Lease Two constitute the entire tenth floor of the Property and total 14,871 rentable square feet of office space or approximately 5.6 percent of the rentable space in the Property. Lease Two will terminate on December 31, 1991, unless sooner amended, terminated or extended by the Joint Venture. Lease Two provides that the Joint Venture may terminate such lease upon an "event of default" which is defined in a manner substantially similar to the definition of the term as in Lease One. Lease Two also provides for periodic upward rental adjustments representing a proportionate share of the Property's operating expenses and real estate taxes.

6. In view of the party in interest relationship existing between Smith Barshop and Rivertel, Eastdil requests exemptive relief from the Department with respect to Lease One and Lease Two. Eastdil also requests prospective exemptive relief for the continuation of the present leasing arrangement existing between Smith Barshop and the Joint Venture under Lease Two. Eastdil represents that rentals under both Leases have been paid in a timely manner and Smith Barshop has otherwise complied with the terms of such Leases.

7. According to Eastdil, the Leases, which were standard commercial leases typically used by Lessees in the Property, were negotiated and entered into in arm's-length transactions between the Joint Venture and Smith Barshop. Eastdil, on behalf of Rivertel, reviewed, approved and has monitored the terms of each Lease. Eastdil represents that the rental rates provided for in the Leases were, at the time each was entered into, not less than the fair rental value of the demised space and comparable to the rental rates paid by lessees in the Property and in other similar buildings in the area at such time. Eastdil further states that the other terms and conditions of the Leases have also been comparable to those of similar leases of space in the Property and in similar commercial buildings in the San Antonio, Texas area entered into at such time. In addition, it is Eastdil's judgment as an experienced real estate manager that Smith Barshop is an excellent lessee for the Property.

8. Eastdil also requests exemptive relief, on a prospective basis, for any lease to a party in interest with respect to the Trust or any participating Plan. AT&T, Eastdil and other fiduciaries with respect to the Property will be specifically precluded from leasing space in the Property. Each such Future Lease will, in form and substance, be a standard commercial lease generally used by lessees in the Property. Each Future Lease will be for a fixed term that will be negotiated on an arm's-length basis on behalf of the Trust by Eastdil. The terms and conditions of any such Future Lease will also be comparable to those of similar leases of space in the Property and in similar buildings in the area entered into at such time.

9. Eastdil further requests exemptive relief for prospective amendments, extensions, or renewals of Lease Two and the Future Leases. However, before any amendments, extensions or renewals of the Leases can be made, they must be reviewed, approved, negotiated and monitored by Eastdil. Eastdil must also make a prior determination that such amendments, renewals and extensions are in the best interests of the Trust and the Plans. In addition, the terms and conditions thereof must be comparable to the terms and conditions then negotiated with regard to similar Leases of space in the Property and in similar commercial office buildings in the San Antonio, Texas area and reflect common industry practice. Finally, Eastdil represents that it will apply the same standards of review and professional judgment it has applied previously with regard to possible amendments, extensions and renewals associated with Lease Two and the Future Leases.

10. Eastdil states that its request for prospective exemptive relief is necessitated by practical business considerations stemming from the large seize of the Trust and the Plans and the large number of parties in interest who deal with them. Eastdil maintains that Rivertel requires the ability to negotiate and enter into Leases of the Property in the ordinary course of business. Eastdil also represents that the requested prospective relief for amendments, renewals or extensions of Lease Two and the Future Leases will provide Rivertel with additional flexibility which will expand the potential value of lease transactions involving the Property, thereby increasing the investment return to the Trust.

11. In summary, it is represented that the subject transactions have satisfied or will satisfy the statutory criteria for an exemption under section 408(a) of the Act because: (a) Lease One and Lease Two were negotiated in arm's-length transactions on behalf of the Trust by Eastdil, an independent fiduciary of the Trust which is unrelated to Smith Barshop; (b) any amendments, renewals or extensions of Lease Two and any

Future Leases of the Property with parties in interest with respect to the Trust, including amendments, renewals or extensions thereof, will require the review, approval, negotiation and monitoring by Eastdil; (c) the Leases that are subject to this proposed exemption will continue to be standard commercial office leases which are utilized generally for all lessees of the Property and which reflect common industry practices; and (d) the rentals under the Leases will continue to be no less than the fair market rental values of the demised premises at the times of their executions.

For Further Information Contact: Ms. Jan D. Broady of the Department, telephone (202) 523–8881. (This is not a toll-free number.)

Mead Retirement Master Trust (the Trust) Located in Dayton, Ohio

[Application No. D–7789]

Proposed Exemption

The Department is considering granting an exemption under the authority of section 408(a) of the Act and section 4975(c)(2) of the Code and in accordance with the procedures set forth in ERISA Procedure 75–1 (40 FR 18471, April 28, 1975). If the exemption is granted the restrictions of section 406(a), 406 (b)(1) and (b)(2) of the Act and the sanctions resulting from the application of section 4975 of the Code, by reason of section 4975(c)(1) (A) through (E) of the Code shall not apply to (1) the proposed sale by the Trust of certain real property located in Michigan (the Timberlands), including certain timber rights pertaining thereto, to the Mead Corporation (Mead), a party in interest with respect to the Trust; and (2) the proposed sale by the Trust of all outstanding common stock of Copmead, Inc. to Mead; provided that all terms of such transactions are at least as favorable to the Trust as those which the Trust could obtain in arm's-length transactions with unrelated parties.

Summary of Facts and Representations

1. Mead is an Ohio publicly-owned corporation with its principal office in Dayton, Ohio. Mead and its subsidiary entities sponsor several employee pension benefit plans (the Plans), the assets of which are commingled for investment purposes in the Trust, which is exempt from taxation under section 501(a) of the Code. The trustee of the Trust is the Wachovia Bank and Trust Company, N.A. (the Trustee), a national banking association with its principal place of business in Winston-Salem, North Carolina. All control over the investment of the Trust's assets is exercised by Mead through its Investment Policy Committee (IPC), which develops investment policies and procedures, implements investment programs and monitors designated activities of the Trust.

2. Among the assets of the Plans in the Trust are the Timberlands, which constituted approximately 4.3 percent of the total assets in the Trust as of December 31, 1987. The Timberlands consist of approximately 429,000 acres of land located in the Upper Peninsula of Michigan, together with certain timber and timber rights with respect to such land. The Timberlands were acquired and are owned by Copmead, Inc. (Copmead), Lamead, Inc., USMead, Inc., and Michland, Inc. (together, the Timberland Companies), each of which is a tax-exempt title-holding company of which the Trust owns 100 percent of the issued and outstanding common stock. The sole and stated purpose of each of the Timberland Companies is the ownership of the Timberlands on behalf of the Trust.

Since the acquisitions of the Timberlands in 1966 and 1982, the Timberland Companies have leased the Timberlands (the Leases) either to Escanaba Paper Company (Escanaba), a wholly-owned subsidiary of Mead, or to Mead and Upper Peninsula Land Company (UPLCo) as joint lessees. UPLCo is a partnerhship between Escanaba and another wholly-owned Mead subsidiary, the UPL Corporation. Mead represents that the acquisitions and the Leases of the Timberlands by the Timberland Companies on behalf of the Trust satisfy the requirements of section 408(e) of the Act relating to "qualifying employer real property" and, therefore, are exempt from the prohibitions of section 406 of the Act.[4]

3. Under the Leases, Mead and its subsidiaries actively manage the Timberlands on a continuous basis. However, Mead represents that the separate ownership of the Timberlands among the Timberland Companies constitutes an impediment to efficient management of the Timberlands. Mead maintains that the future efficient management of the Timberlands will require greater management flexibility in an ongoing program of sales, purchases and trades among the Timberland parcels to consolidate some tracts with parcels not presently owned and to dispose of other parcels which are either too remote for users or have greater economic value for uses other than timber cutting. In order to enable a more efficient management of the Timberlands, Mead has expressed a desire to purchase the Timberlands from the Trust. Concurrently, the members of the IPC have expressed an interest in selling the Timberlands in order to achieve for the Trust greater liquidity and flexibility of investment. Therefore, Mead is proposing to purchase the Timberlands from the Timberland Companies and is requesting an exemption to permit such transaction under the terms and conditions described herein.[5]

4. According to Mead's representations, on March 5, 1987 the IPC authorized its chairman, William W. Wommack (Mr. Wommack) to represent the Trust in negotiations with Mead representatives regarding a proposed sale of the Timberlands. Mead maintains that Mr. Wommack's extensive experience in finance and investment figured prominently in this authorization. Mr. Wommack is the retired vice-chairman of the board of directors of Mead and prior to his retirement in 1981, he served as Mead's Chief Strategic Officer. Mead represents that because the Timberlands constitute a long-term fixed investment of the Trust, the IPC determined that in any sale of the Timberlands the Trust must receive a price which includes the present value of future economic benefits under the Leases, benefits which are summarized as (1) the current income streams under the Leases, and (2) the fair market value of the Timberlands at the expiration of the Leases. According to Mead's representations, after extensive discussion and analysis Mr. Wommack and representatives of Mead reached agreement on an appropriate method for valuation of each of these economic factors in order to determine an appropriate purchase price. Mead represents that, based on this agreement, the parties have determined an appropriate purchase price for the Timberlands (the Determination). Mead proposes to pay the Timberland Companies cash for their interests in the Timberland in an amount established in accordance with the Determination.

5. Mead maintains that the Determination largely reflects the position proposed on behalf of the Trust and notes that the Determination was

[4] The Department expresses no opinion as to whether the Timberlands constitute "qualifying employer real property" or whether the acquisitions and Leases of the Timberlands satisfy the requirements of section 408(e) of the Act.

[5] The Department is proposing exemptive relief herein solely for Mead's proposed purchase of the Timberlands and is not proposing any exemptive relief with respect to the Trust's acquisitions of the Timberlands or the Leases to Mead.

reviewed, approved and in part suggested by Rogers, Casey and Barksdale, Inc., an investment advisory and research firm providing specialized financial and consulting services to tax-exempt entities. Mead also represents that the Trustee reviewed the Determination and found it to be appropriate. The Determination includes a study commissioned by IPC from Salomon Brothers, Inc. on the appropriateness of various calculations involved in the Determination and Mead represents that the parties also consulted with the investment banking firm of Smith Barney, Harris, Upham and Company and reviewed long range forecasts of inflation and real returns on Treasury Bonds.

Appraisals of the Timberlands were conducted by George Banzhaf and Company (Banzhaf), a commercial real property appraisal firm based in Milwaukee, Wisconsin which is represented to have extensive experience in appraisals of timber property in Michigan's Upper Peninsula. Mead represents that Mr. Wommack and representatives of Mead carefully reviewed the appraisals and discussions with the Banzhaf representatives and agreed to user Banzhaf's appraisals in the Determination for calculating the Timberlands' present fair market value and the real growth rate of their future value. Mead represents that the Determination also includes specific valuations of the Leases' income streams and the Timberlands' residual, or post-Lease, values to the Trust. The Trust's total investment in the Timberlands is $14.1 million and calculations made as of January 1, 1988 pursuant to the Determination result in a proposed purchase price of $43,744,060. The purchase price will be adjusted upward as of the sale date to account for rentals accrued on and after January 1, 1988 and to reflect the reinvestment potential of the purchase price as of January 1, 1988.

6. Mead represents that the proposed transaction will consist of Mead's cash purchase of the Timberlands directly from all of the Timberland Companies except Copmead. Mead's purchase of that portion of the Timberlands owned by Copmead will be accomplished by means of Mead's cash purchase of all of the common stock of Copmead. Mead explains that during the negotiations over the proposed Timberlands sale there wre 69,000 outstanding shares of sinking-fund preferred stock (the Copmead Preferred) which Copmead had sold to unrelated parties in 1982 after its purchase of certain Timberlands property and which, by its terms, required that any transfer of Copmead real property assets be approved by the holders of the Copmead Preferred. Mead represents that the transfer of the Copmead common stock originally was proposed in lieu of the transfer of Copmead assets in order to avoid this procedural obstacle and the potential objections of the Copmead Preferred holders. The transaction proposed herein remains structured as a transfer of Copmead common stock even though the Copmead Preferred has been redeemed by Copmead and is no longer outstanding. Mead represents that the proposed transfer of the Copmead common stock will be tantamount to a transfer of the Copmead-owned Timberlands and that either of these transfers would accomplish the same economic result: the transfer of ownership of the Copmead-owned Timberlands from Copmead to Mead.

7. In summary, the applicant represents that the proposed transaction satisfies the criteria of section 408(a) of the Act for the following reasons: (1) The Trust, through the Timberland Companies, will receive a cash purchase price for the Timberlands in the amount of no less than the Timberlands' fair market values including the present value of future economic benefits under the Leases; (2) the Trust is represented in the Determination, which defines the proposed transaction, by Mr. Wommack, who has extensive experience in finance and investment; (3) the Determination has been reviewed and approved by the Trustee on behalf of the Trust; (4) the Trust's position and the valuation methods in the Determination were reviewed on behalf of the Trust and approved by the investment advisory and research firm of Rogers, Casey and Barksdale, Inc., which specializes in financial and consulting services to tax-exempt entities; (5) The final purchase price will be adjusted as of the sale date to refelct rentals accrued under the Leases and to reflect the reinvestment potential of the purchase price as of that date; and (6) The proposed transaction will achieve for the Trust greater liquidity and flexibility of investment.

For Further Information Contact: Ronald Willett of the Department, telephone (202) 523-8881. (This is not a toll-free number.)

The Lincoln Savings Bank, FSB (Lincoln) Located in New York, New York

[Application No. D-7827]

Proposed Exemption

The Department is considering granting an exemption under the authority of section 408(a) of the Act and section 4975(c)(2) of the Code and in accordance with the procedures set forth in ERISA Procedure 75-1 (40 FR 18471, April 28, 1975). If the exemption is granted the restrictions of section 406(a) of the Act and the sanctions resulting from the application of section 4975 of the Code, by reason of section 4975(c)(1) (A) through (D) of the Code shall not apply to the sale by Lincoln of its subordinated capital notes (the Notes) to the Keogh Plans (the Keoghs) and Simplified Employee Plans (the SEPs) for which Lincoln serves as custodian or trustee, and the sanctions resulting from the application of section 4975 of the Code, by reason of section 4975(c)(1) (A) through (D) of the Code shall not apply to the sale by Lincoln of the Notes to the individual retirement accounts (the IRAs) for which Lincoln serves as custodian or trustee, provided the Keoghs, IRAs and SEPs pay no more than the fair market value of the Notes on the date of the sale.[6]

Summary of Facts and Representations

1. Lincoln is a federally-chartered stock savings bank the deposits of which are insured by the Federal Deposit Insurance Corporation (FDIC), primarily involved in providing retail bank and residential and commercial lending services in the New York City area. Lincoln was organized in 1866 as a New York State chartered mutual savings bank and converted to a federal charter in 1983. As of June 30, 1988, Lincoln had total assets of $2.6 billion, deposits of $2.3 billion and stockholder equity of $139.5 million. Lincoln was acquired by a wholly-owned subsidiary of Unicorp American Corporation (Unicorp) on December 31, 1987 and converted to a federal stock savings bank. The conversion was supervised and approved by the Federal Home Loan Bank Board (FHLBB) and the FDIC. In connection with the acquisition, the Unicorp subsidiary purchased all of the outstanding stock of Lincoln for $135 million and $15 million aggregate principal amount of Lincoln's subordinated debentures.

2. Lincoln is in the process of registration with the FHLBB for the sale of up to $30 million of the Notes, which are unsecured subordinated general obligations of Lincoln. The Notes are being offered for sale to the general public and to all existing Lincoln depositors. Lincoln also intends to offer

[6] Pursuant to 29 CFR 2510.3-2(d), there is no jurisdiction with respect to the IRAs under Title I of the Act. However, there is jurisdiction under Title II of the Act pursuant to section 4975 of the Code.

the Notes to the Keoghs, SEPs and IRAs for which it acts as trustee or custodian.

3. Lincoln currently acts as custodian and/or trustee for 22,443 IRA customers, 1,271 Keoghs and 65 SEPs with assets, in the aggregate, of approximately $219,600,000. These assets represent slightly less than 10% of the total deposits held by Lincoln. Lincoln has no discretionary authority with respect to investment of IRA, Keogh and SEP assets. All investments are made at the direction of the account holder within the range of investment alternatives permitted by the plan documents. Lincoln represents that no single IRA, Keogh or SEP account will be permitted to invest more than 25% of the assets of such account in the Notes in connection with the offering by Lincoln.

4. The Notes will be issued in registered form in minimum amounts of $2,500, without limitation on the size of incremental amounts thereof. Interest will be paid monthly, on the first business day of each month. The Notes will mature on dates offered by Lincoln of at least 7 and not more than 15 years from the date of issue. The pricing supplements to the offering circular will contain information as to the maturities then offered by Lincoln.

5. The Notes will be redeemable at the option of Lincoln, at any time after three years from the date of issuance, at the following redemption prices: 102% of the principal amount if redeemed during the fourth year after the date of issuance; 101% of the principal amount if redeemed during the fifth year after issuance; and 100% of the principal amount if redeemed thereafter, in each case with accrued interest to the date of payment. No redemption may be made without the prior written consent of the FHLBB or if, after giving effect to such redemption, Lincoln would fail to meet its then applicable regulatory capital requirements. The Notes are subordinated to other debts of Lincoln including deposit accounts.

6. The Notes will be sold by certain officers and other full-time employees of Lincoln. Written orders for the Notes will be solicited at the Bank's executive offices and at all branch offices. No commissions will be paid to such employees for offering and selling Notes and no fees or commissions will be payable to Lincoln by any purchaser of the Notes, including the IRAs, Keoghs and SEPs. Lincoln may also elect to offer all or a portion of the Notes through underwriters or dealers, although it does not currently intend to do so. The offering of the Notes will terminate no later than October 1, 1989 unless previously terminated or extended (subject to FHLBB approval) by Lincoln, and is not subject to any minimum amount of Notes being sold. It is anticipated that Lincoln will offer the Notes in three series in the aggregate principal amount of $10,000,000 each during the one year period of registration.

7. The interest payable on the Notes will be at a fixed rate established by Lincoln. The rate offered on the Notes will be based upon then-existing market conditions. It is currently anticipated that the Notes will bear interest at rates between 11% and 13% per annum. The interest on Notes acquired by Lincoln's IRAs, Keoghs and SEPs will be the same as the interest rate on Notes from the same series sold to the other Lincoln depositors and the general public. The terms and conditions of the Notes issued will be the same for IRAs, Keoghs and SEPs as for all other Lincoln depositors and the general public. The interest rate on the Notes at the time of issuance will be higher than that paid by Lincoln at that time on any of its certificates of deposit. The Notes will be transferrable by purchasers. Each purchaser of a Note will have the right to rescind his or her purchase within three business days from the date the order to purchase is received by Lincoln.

8. In summary, the applicant represents that the proposed transaction satisfies the criteria of section 408(a) of the Act and section 4975(c)(2) of the Code because: (1) All decisions to purchase the Notes are to be made by the IRA, Keogh and SEP account holders or fiduciaries other than Lincoln, which will have no discretion over such decision; (2) no fees or commissions will be paid with respect to the transaction; (3) no more than 25% of the assets of any IRA, Keogh or SEP account will be invested in the Notes; and (4) the Notes will be offered to the Keoghs, IRAs and SEPs at the same interest rates, terms and conditions as to other Lincoln depositors and the general public.

For Further Information Contact: Gary H. Lefkowitz of the Department, telephone (202) 523-8881. (This is not a toll-free number.)

General Information

The attention of interested persons is directed to the following:

(1) The fact that a transaction is the subject of an exemption under section 408(a) of the Act and/or section 4975(c)(2) of the Code does not relieve a fiduciary or other party in interest or disqualified person from certain other provisions of the Act and/or the Code, including any prohibited transaction provisions to which the exemption does not apply and the general fiduciary responsibility provisions of section 404 of the Act, which among other things require a fiduciary to discharge his duties respecting the plan solely in the interest of the participants and beneficiaries of the plan and in a prudent fashion in accordance with section 404(a)(1)(B) of the Act; nor does it affect the requirement of section 401(a) of the Code that the plan must operate for the exclusive benefit of the employees of the employer maintaining the plan and their beneficiaries;

(2) Before an exemption may be granted under section 408(a) of the Act and/or section 4975(c)(2) of the Code, the Department must find that the exemption is administratively feasible, in the interests of the plan and of its participants and beneficiaries and protective of the rights of participants and beneficiaries of the plan; and

(3) The proposed exemptions, if granted, will be supplemental to, and not in derogation of, any other provisions of the Act and/or the Code, including statutory or administrative exemptions and transitional rules. Furthermore, the fact that a transaction is subject to an administrative or statutory exemption is not dispositive of whether the transaction is in fact a prohibited transaction.

(4) The proposed exemptions, if granted, will be subject to the express condition that the material facts and representations contained in each application are true and complete, and that each application accurately describes all material terms of the transaction which is the subject of the exemption.

Signed at Washington, DC, this 25th day of January 1989.

Robert J. Doyle,

Director of Regulations and Interpretations, Pension and Welfare Benefits Administration, U.S. Department of Labor.

[FR Doc. 89-2061 Filed 1-27-89; 8:45 am]

BILLING CODE 4510-29-M

[Prohibited Transaction Exemption 89-5; Exemption Application No. D-7386]

Grant of Individual Exemptions; Truman Arnold Co. Profit Sharing Plan and Trust

AGENCY: Pension and Welfare Benefits Administration, Labor.

ACTION: Grant of individual exemptions.

SUMMARY: This document contains exemptions issued by the Department of Labor (the Department) from certain of the prohibited transaction restrictions of the Employee Retirement Income Security Act of 1974 (the Act) and/or the

Internal Revenue Code of 1954 (the Code).

Notices were published in the **Federal Register** of the pendency before the Department of proposals to grant such exemptions. The notices set forth a summary of facts and representations contained in each application for exemption and referred interested persons to the respective applications for a complete statement of the facts and representations. The applications have been available for public inspection at the Department in Washington, DC. The notices also invited interested persons to submit comments on the requested exemptions to the Department. In addition the notices stated that any interested person might submit a written request that a public hearing be held (where appropriate). The applicants have represented that they have complied with the requirements of the notification to interested persons. No public comments and no requests for a hearing, unless otherwise stated, were received by the Department.

The notices of pendency were issued and the exemptions are being granted solely by the Department because, effective December 31, 1978, section 102 of Reorganization Plan No. 4 of 1978 (43 FR 47713, October 17, 1978) transferred the authority of the Secretary of the Treasury to issue exemptions of the type proposed to the Secretary of Labor.

Statutory Findings

In accordance with section 408(a) of the Act and/or section 4975(c)(2) of the Code and the procedures set forth in ERISA Procedure 75–1 (40 FR 18471, April 28, 1975), and based upon the entire record, the Department makes the following findings:

(a) The exemptions are administratively feasible;

(b) They are in the interests of the plans and their participants and beneficiaries; and

(c) They are protective of the rights of the participants and beneficiaries of the plans.

Truman Arnold Company Profit Sharing Plan and Trust (the Plan) Located in Texarkana, Texas

[Prohibited Transaction Exemption 89–5; [Exemption Application No. D–7386]

Exemption

The restrictions of section 406(a), 406 (b)(1) and (b)(2) of the Act and the sanctions resulting from the application of section 4975 of the Code, by reason of section 4975(c)(1)(A) through (E) of the Code, shall not apply to the past contribution of two buildings to the Plan and leaseback of the buildings by Truman Arnold Companies (the Employer), nor to the agreement by the Employer and Mr. Truman Arnold to indemnify the Plan against any decline in the market value of the buildings, provided that the terms of the transactions were at least as favorable to the Plan as those obtainable in an arm's-length transaction with an unrelated person at the time the transactions were entered into.

For a more complete statement of the facts and respresentations supporting the Department's decision to grant this exemption refer to the notice of proposed exemption published on November 10, 1988 at 53 FR 45626.

Effective Date: June 1, 1988.

For Further Information Contact: Alan H. Levitas of the Department, telephone (202) 523–8194. (This is not a toll-free number.)

General Information

The attention of interested persons is directed to the following:

(1) The fact that a transaction is the subject of an exemption under section 408(a) of the Act and/or section 4975(c)(2) of the Code does not relieve a fiduciary or other party in interest or disqualified person from certain other provisions of the Act and/or the Code, including any prohibited transaction provisions to which the exemption does not apply and the general fiduciary responsibility provisions of section 404 of the Act, which among other things require a fiduciary to discharge his duties respecting the plan solely in the interest of the participants and beneficiaries of the plan and in a prudent fashion in accordance with section 404(a)(1)(B) of the Act; nor does it affect the requirement of section 401(a) of the Code that the plan must operate for the exclusive benefit of the employees of the employer maintaining the plan and their beneficiaries;

(2) These exemptions are supplemental to and not in derogation of, any other provisions of the Act and/or the Code, including statutory or administrative exemptions and transitional rules. Furthermore, the fact that a transaction is subject to an administrative or statutory exemption is not dispositive of whether the transaction is in fact a prohibited transaction.

(3) The availability of these exemptions is subject to the express condition that the material facts and representations contained in each application accurately describes all material terms of the transaction which is the subject of the exemption.

Signed at Washington, DC, this 25th day of January 1989.

Robert J. Doyle,

Director of Regulations and Interpretations, Pension and Welfare Benefits Administration, U.S. Department of Labor.

[FR Doc. 89–2062 Filed 1–27–89; 8:45 am]

BILLING CODE 4510–29–M

MONITORED RETRIEVABLE STORAGE REVIEW COMMISSION

Meeting

ACTION: Notice of meeting.

SUMMARY: The Monitored Retrievable Storage Review Commission, pursuant to its authority under Subtitle A of Pub. L. 100–203, the Nuclear Waste Policy Amendments Act of 1987, will hold an additional public hearing in Atlanta, Georgia to obtain the views of the public on the need for a monitored retrievable storage (MRS) facility as part of the nation's nuclear waste management system. To date, the Commission has held public hearings in Washington, DC; Denver, Colorado; San Francisco, California; and Atlanta, Georgia. An additional hearing is being scheduled to accommodate all of the people who requested to testify in Atlanta, Georgia. This notice announces the date and location of the hearing, provides procedures for participating in the hearing, and lists some of the issues that participants may want to address in their remarks.

DATES: The date, location, and time of the hearing is:

—February 16, 1989 in Atlanta, Georgia at the Westin Plaza, Peachtree and International Boulevard, Atlanta, GA 30343 (404–659–1400), from 9:00 a.m. to 5:00 p.m. and,

—February 17, 1989 in Atlanta, Georgia at the Westin Plaza, Peachtree and International Boulevard, Atlanta, GA 30343 (404–659–1400), from 9:00 a.m. to 5:00 p.m.

ADDRESSES: Requests to testify should be made in writing to Ms. Paula N. Alford, Director, External Affairs, MRS Review Commission, 1825 K Street NW., Suite 318, Washington, DC 20006. Requests to testify must be received no later than February 6, 1989. The written request should specify the following: Name, title, organization and telephone number of the person who will be testifying; name, title, organization, and telephone number of the person to contact regarding the testimony if different from the presenter; and length of time desired to present testimony.

Interested persons may submit written comments in lieu of testifying until February 17, 1989. An original and five copies should be submitted to the Monitored Retrievable Storage Review Commission, 1825 K Street, NW., Suite 318, Washington, DC 20006.

FOR FURTHER INFORMATION CONTACT: Ms. Paula N. Alford, Director, External Affairs, MRS Review Commission, 1825 K Street, NW., Suite 318, Washington, DC 20006. (202) 653–5361.

SUPPLEMENTARY INFORMATION: The Monitored Retrievable Storage Review Commission was established by the Nuclear Waste Policy Amendments Act of 1987 (Pub. L. 100–203) and charged with the responsibility "to evaluate the need for a monitored retrievable storage facility as a part of the nation's nuclear waste management system." The Commission was directed to prepare a report to Congress by June 1, 1989. That date was subsequently extended to November 1, 1989. (Pub. L. 100–507).

In carrying out its mission, the Commission decided to study the work which has been done to date in this field and to hear from all interested persons who wish to make their views known to the Commission. To achieve this goal, the Commission held a series of public briefings in July, 1988 in which certain agencies and organizations involved with the issue of monitored retrievable storage participated. In August and September, 1988 the Commission held additional briefings with the Department of Energy and the Nuclear Regulatory Commission, which were announced in the **Federal Register.** Subsequently, in December, 1988 and January, 1989 the Commission held a series of public hearings in Washington, DC; Denver, Colorado; San Francisco, California; and Atlanta, Georgia. These hearings were also noticed in the **Federal Register,** and announcements were mailed to approximately 6,000 individuals and organizations nationwide. Because time did not permit the Commission to hear from all persons requesting to testify in Atlanta, the Commission has decided to schedule another hearing session.

The purpose of the hearing announced in this notice is to continue the Commission's efforts to solicit the views of any interested persons on whether the Commission should recommend that a monitored retrievable storage facility for spent nuclear fuel be included as part of an integrated nuclear waste management program. It should be noted, however, that the Commission was not asked by the U.S. Congress and does not intend to address siting of an MRS. That will be the Department of Energy's (DOE) responsibility if the Congress decides to permit DOE to proceed with the MRS after receiving the Commission's recommendations.

The Commission encourages any interested person to make his or her views known during the public hearings, either through attendance at a meeting or in writing. The Commissioners will consider the information received when it develops its recommendations and report to Congress.

To accommodate all persons requesting to testify and to allow time for questions from the Commissioners, a time limit will be placed on scheduled oral presentations. The amount of time permitted for each oral presentation will depend on the number of requests that the Commission receives. Those testifying will be notified of time constraints following receipt of their written requests. Persons testifying are asked to provide five copies of their testimony and any accompanying slides or other documentation five days in advance of their presentation to the MRS Review Commission, 1825 K Street NW., Suite 318, Washington, DC 20006. Persons testifying are also asked to bring 75 copies at the time of their testimony.

In addition to oral presentations scheduled in advance, the Commission will provide time at the hearing to hear the views of interested persons on a first come, first served basis. Participants in this part of the hearing do not need to notify the Commission in advance of their plan to attend, but they will be required to appear between 9:00 am and 12:00 noon on February 16, 1989 to sign up for five minutes during the time allotted.

Participants during both parts of the hearing should be prepared to answer questions from the Commission. A transcript of the hearings will be made.

Issues

In the legislation creating the Monitored Retrievable Storage Review Commission, Congress directed the Commission to address a number of issues in its evaluation and recommendation to Congress on the need for an MRS. The Commission has since identified additional issues that should be considered in its evaluation. Some of these issues are set forth below to focus the discussions during the public hearings. Interested persons may wish to address them in their written statements or oral remarks but need not limit their comments to them.

1. Are there specific reasons why an MRS facility should or should not be built, assuming a suitable site can be found for the facility? Consider, for example:

—Need for the facility;
—Public health and safety;
—Environmental impacts;
—Safeguards/national security;
—Transportation issues such as public health, safety and environmental effects; routing; inspection, enforcement and emergency preparedness capabilities along the routes; and the possible need for new transportation facilities;
—Predictability and reliability of the national system for the disposal of radioactive waste;
—Potential effect of the MRS facility on repository design and construction; waste package design, fabrication and standardization; and waste preparation;
—Ability of the Secretary of the U.S. Department of Energy to fulfill contractual commitments to accept spent fuel for disposal; and
—Economic issues such as the costs of building and operating an MRS compared to the costs of continued storage of spent fuel at reactors, the cost of an MRS facility to electric utility ratepayers and taxpayers and the equitable distribution of such costs; the economic consequences of siting a MRS facility on the area in which an MRS might be located; and the advisability and possible methods of trying to mitigate economic and fiscal consequences in siting an MRS.

2. Some of the proposed MRS facility functions include serving as a hub for spent fuel transportation, temporary spent-fuel storage for up to 15,000 metric tons of heavy metal (MTHM), manufacturing concrete casks in which spent fuel would be stored, and preparing the spent fuel for disposal (including consolidating fuel rods and placing the fuel in the appropriate disposal containers). If an MRS facility were to be built and operated, what functions should be carried out at the facility?

3. One alternative to an MRS facility is continued at-reactor storage. Are there other viable alternatives that should be considered? What are the advantages and disadvantages of the alternatives?

4. The 1987 Amendments to the National Waste Policy Act (NWPA) place the following restrictions on the site selection, construction, and operation of an MRS facility:

—Construction of the MRS may not begin until the NRC has issued a license for the construction of the repository;
—Construction of the MRS or acceptance of waste (i.e., spent fuel or

high level waste) at the MRS is prohibited during such time as the repository license is revoked by the NRC or construction of the repository ceases;

—The total quantity of waste at the MRS cannot exceed 10,000 MTHM until the repository first accepts waste;

—The quantity of waste at the MRS may not, in any case, exceed 15,000 MTHM.

The principal purpose of the restrictions is to assure that the MRS facility does not become a *de facto* repository. Are the restrictions necessary if an MRS is built? Are they appropriate? Are they adequate? If an MRS is built, are there other ways to achieve the objective?

5. When considering whether to include an MRS facility in the national nuclear waste program, what weight should be given to subjective factors such as program predictability and reliability, program flexibility, and public confidence that the national nuclear waste program will be successful?

Jane A. Axelrad,

Executive Director and General Counsel.

January 25, 1989.

[FR Doc. 89-2060 Filed 1-27-89; 8:45 am]

BILLING CODE 6820-BE-M

NATIONAL CREDIT UNION ADMINISTRATION

Public Information Collection Requirement Submitted to OMB for Review

Date: January 24, 1989.

The National Credit Union Administration has submitted the following public information collection requirement to OMB for review and clearance under the Paperwork Reduction Act of 1980, Pub. L. 96-511. Copies of the submission may be obtained by calling the NCUA Clearance Officer listed. Comments regarding this information collection should be addressed to the OMB reviewer listed and to the NCUA Clearance Officer, NCUA, Administrative Office, Room 7344, 1776 G Street, Washington, DC 20456.

National Credit Union Administration

OMB Number: 3133-0067.

Form Number: NCUA 5310.

Type of Review: Revision/Renewal.

Title: Corporate Credit Union Monthly Report.

Description: Federally insured corporate credit unions are required to make periodic reports of financial condition to the National Credit Union Administration. The information is used to monitor liquidity needs, and provide a basis for developing policy and determining the potential impact of economic developments on the well being of the corporate system. Most non-federally insured corporate credit unions voluntarily participate in the reporting process.

Respondents: Federally insured and other corporate credit unions.

Estimated Number of Respondents: 30.

Estimated Burden Hours per Response: 1 hour.

Frequency of Response: Monthly.

Estimated Total Reporting Burden: 360 hours.

Clearance Officer: Wilmer A. Theard, (202) 682-9700, National Credit Union Administration, Room 7344, 1776 G Street, Washington, DC 20456.

OMB Reviewer: Gary Waxman (202) 3905-7340, Office of Management and Budget, Room 3208, New Executive Office Building, Washington, DC 20503.

Becky Baker,

Secretary of the NCUA Board.

[FR Doc. 89-2017 Filed 1-27-89; 8:45 am]

BILLING CODE 7535-01-M

NATIONAL SCIENCE FOUNDATION

Permit Issued Under the Antarctic Conservation Act of 1978

AGENCY: National Science Foundation.

ACTION: Notice of permit issued under the Antarctic Conservation Act of 1978, Pub. L. 95-541.

SUMMARY: The National Science Foundation (NSF) is required to publish notice of permits issued under the Antarctic Conservation Act of 1978. This is the required notice of permit issued.

FOR FURTHER INFORMATION CONTACT: Charles E. Myers, Permit Office, Division of Polar Programs, National Science Foundation, Washington, DC 20550.

SUPPLEMENTARY INFORMATION: On December 15, 1988, the National Science Foundation published a notice in the **Federal Register** of a permit application received. A permit was issued to the following individual on January 19, 1989: William J.L. Sladen.

Charles E. Myers,

Permit Office, Division of Polar Programs.

[FR Doc. 89-2107 Filed 1-27-89; 8:45 am]

BILLING CODE 7555-01-M

NUCLEAR REGULATORY COMMISSION

[Docket Nos. 50-317 and 50-318]

Baltimore Gas and Electric Co.; Environmental Assessment and Finding of No Significant Impact

The U.S. Nuclear Regulatory Commission (the Commission) is considering the issuance of amendments to Facility Operating Licenses DPR-53 and DPR-69 issued to the Baltimore Gas and Electric Company (the licensee) for operation of the Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 and 2, located in Calvert County, Maryland. The proposed amendments, submitted via the application dated March 15, 1988, as modified on December 2, 1988 and supplemented on June 3, 1988 and January 13, 1989, would modify the operations line management senior reactor operator (SRO) license requirements of Technical Specification 6.2.2, "Unit Staff."

Need for Environmental Impact Statement

The Commission has found that the proposed amendments will not result in any additional significant environmental impact and has, therefore, determined not to prepare an environmental impact statement.

Environmental Assessment

Identification of the Proposed Amendments

Currrently, Technical Specification (TS) 6.2.2.g required that the General Supervisor-Nuclear Operations (GS-NO) hold an SRO license. In accordance with a September 1, 1988 split of the duties of the GS-NO between the GS-NO and the Assistant General Supervisor-Nuclear Operations (AGS-NO), the licensee has proposed the following changes to TS 6.2.2.g: (1) Modify the requirement that the GS-NO hold an SRO license to a new requirement that the GS-NO hold or have held an SRO license at Calvert Cliffs, and (2) add a new requirement which requires that the AGS-NO hold an SRO license.

Need for the Proposed Action

These changes are requested to permit better flexibility in shifting qualified personnel among management positions while, at the same time, ensuring that the detailed level of knowledge needed to directly supervise the safe operation of the plant is maintained.

Alternatives to the Proposed Action

Since we have concluded that the environmental effects of the proposed

action are negligible, any alternatives with equal or greater environmental impacts need not be evaluated.

The principal alternative would be to deny the requested action. This would not significantly reduce the environmental impacts of plant operation and would result in reduced operational flexibility.

Alternative Use of Resources

This action does not involve the use of resources not previously considered by the Commission in the "Final Environmental Statement Relating to Operation of Calvert Cliffs Nuclear Power Plant, Units 1 and 2" dated April 1973.

Environmental Impact of the Proposed Amendments

These proposed changes are basically administrative in nature and are provided to facilitate the splitting of the GS–NO's roles between the GS–NO and AGS–NO.

Consequently, these proposed changes pose neither radiological nor non-radiological impacts upon the environment. The day-to-day operation of the plant shall continue to be directly supervised by a manager who holds an SRO license. This constitutes no change in the level of safety exercised in plant operations. Furthermore, the Plant Operations and Safety Review Committee shall continue to include a member with an SRO license which ensures that all nuclear safety matters will continue to be reviewed by a member who has a current detailed level of knowledge of plant operation.

Therefore, the Commission has determined that these proposed amendments pose no significant environmental impact.

Agencies and Persons Consulted

None.

Finding of No Significant Impact

Based on the aforementioned environmental assessment, the Commission has determined that the proposed amendments will not have a significant effect on the quality of the human environment.

For further details with respect to his action see: (1) The applications for license amendments dated March 15, 1988 and December 2, 1988, and (2) the licensee's supplemental letters dated June 3, 1988 and January 13, 1989. These documents are available for public inspection at the Commission's Public Document Room, 2120 L Street NW., Washington, DC, and at the Calvert County Library, Prince Frederick, Maryland.

Dated at Rockville, Maryland, this 25th day of January 1989.

For the Nuclear Regulatory Commission.

Joseph D. Neighbors,

Acting Director, Project Directorate I–1, Division of Reactor Projects I/II.

[FR Doc. 89–2079 Filed 1–27–89; 8:45 am]

BILLING CODE 7590–01–M

[Docket Nos. 50–317 and 50–318]

Baltimore Gas and Electric Co., Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 and 2; Environmental Assessment and Finding of No Significant Impact

The U.S. Nuclear Regulatory Commission (NRC or the Commission) is considering issuance of amendments to Facility Operating License Nos. DPR–53 and DPR–69, issued to the Baltimore Gas and Electric Company, (the licensee), for operation of the Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 and 2, respectively, which are located in Calvert County, Maryland. The proposed amendments, submitted via the license application dated June 9, 1988, as supplemented on October 25 and November 17, 1988 would change the Units 1 and 2 Technical Specifications (TS) 5.6.1, "Criticality-Spent Fuel," and 5.6.2, "Criticality-New Fuel," to increase the maximum U–235 fuel enrichment limit from 4.1 to 5.0 weight percent and also, reduce the TS 5.6.2 maximum limit on the effective multiplication factor (K_{eff}) from 0.98 to 0.95. Additional information concerning expected core burnup levels was provided in a December 28, 1988 letter.

This assessment shall also apply to any changes proposed in the reactor core U–235 enrichment limit, up to and including 5.0 weight percent, and to proposed increases in the average level of irradiation of fuel discharged from the reactors up to a batch average discharge burnup limit of 60,000 MWD/MT.

Need for Environmental Impact Statement

The Commission has found that the proposed amendments constitute no additional significant environmental impact and as has, therefore, determined not to prepare an environmental impact statement.

Environmental Assessment

Identification of Proposed Amendments

Currently, the maximum permitted enrichment limit for (1) stored new and spent fuel and (2) fuel in the reactor core at Calvert Cliffs Units 1 and 2 is 4.1 weight percent U–235. The licensee is in the process of shifting its core design to incorporate higher enrichment fuel assemblies to support full 24-month operating cycles. The first Unit 1 24-month cycle commenced in Spring 1988, with a reload planned for April 1990, while the first Unit 2 24-month cycle is nearing its March 1989 completion date. These first 24-month cycle cores were transitional designs provided to economically utilize the lower enrichment fuel (4.0 to 4.85 weight percent U–235) located onsite that had already experience irradiation and burnup during the previous 18-month cycles at each unit. Subsequent to the use of this lower enrichment fuel, the licensee intends to utilize cores with up to 5.0 weight percent U–235 enrichment levels to better support 24 months of continuous power operation without refueling. Consequently, the licensee has proposed changes to increase the U–235 enrichment limits in TS 5.6.1, "Criticality-Spent Fuel," and TS 5.6.2, "Criticality-New Fuel," from 4.1 to 5.0 weight percent.

In addition, the licensee has proposed to restrict the maximum value of K_{eff} to a limit of 0.95, vice the current limit of 0.98, and add the full flood condition to the various densities of unborated water conditions that are assumed in determining K_{eff}. The reduction of the maximum limit for K_{eff} for fully flooded conditions was proposed solely to place the Calvert Cliffs TS limits on new fuel criticality in full accord with the NRC guidance provided in Section 9.1.1., "New Fuel Storage," of the Standard Review Plan (NUREG–0800). This restrictive change would provide more conservative criticality determinations for new fuel storage than those currently required by TS.

Need for the Proposed Amendments

The proposed changes are needed to allow the licensee to support future 24-month full power operating cycles.

Environmental Impact of the Proposed Amendments

The Commission has completed its evaluation of the proposed revisions to the TS and the proposed increase in the burnup limits for the fuel. The staff has concluded that such changes would not adversely affect plant safety. The proposed changes have no significant adverse effects upon the probability of any analyzed accident. The increased burnup may alter slightly the mix of fission products that could be released in the event of a serious accident but such small changes would not significantly affect the consequences of said serious accidents. In addition, no changes would result in the types or amounts of any radiological effluents

that may be released offsite. Finally, these changes would not contribute to any significant increase in individual or cumulative occupational radiation exposure.

Regarding the potential non-radiological impact of reactor operation with higher enrichment fuel and increased levels of irradiation, the proposed changes involve systems located within the restricted area, as defined in 10 CFR Part 20. They do not affect non-radiological plant effluents and have no other non-radiological environmental impact.

The potential environmental impact resulting from the transportation of higher fuel enrichment and burnup levels is discussed in the staff assessment entitled, "NRC Assessment of the Environmental Effects of Extended Fuel Enrichment and Irradiation," which was published in the **Federal Register** on August 11, 1988 (53 FR 30355) in connection with the Shearon Harris Nuclear Power Plant, Unit 1, Environmental Assessment and Finding of No Significant Impact. As indicated therein, the environmental cost contribution of the transportation, due to the increases in the fuel enrichment up to 5% and irradiation limits up to 60,000 MWD/MT are either unchanged or may, in fact, be reduced from those summarized in Table S-4 as set forth in 10 CFR 51.52(c). These findings are applicable to these amendments for the Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 and 2.

Therefore, the Commission concludes that the proposed amendments pose no significant radiological or non-radiological environmental impact.

Alternatives to the Proposed Amendments

Since the Commission concluded that there are no significant environmental effects that would result from the proposed changes, any alternatives with equal or greater environmental impacts need not be evaluated.

The principal alternative would be to deny the requested fuel enrichment and burnup increases. This would not reduce environmental impact of plant operation and would result in reduced operational flexibility.

Alternative Use of Resources

This action does not involve the use of any resources not previously considered in the "Final Environmental Statement Related to the Operation of Calvert Cliffs Nuclear Power Plant, Units 1 and 2," dated April 1973.

Agencies and Persons Consulted

The NRC staff reviewed the licensee's request and did not consult with other agencies or persons.

Finding of No Significant Impact

Based upon the foregoing environmental assessment, we conclude that the proposed amendments will not have a significant effect on the quality of the human environment.

For further details with respect to this action, see (1) the application for license amendments dated June 9, 1988, as supplemented on October 25 and November 17, 1988, and (2) the licensee's letter of December 28, 1988, which are available for public inspection at the Commission's Public Document Room, 2120 L Street, NW., Washington, DC and at the Calvert County Library, Prince Frederick, Maryland.

Dated at Rockville, Maryland, this 25th day of January 1989.

For the Nuclear Regulatory Commission.

Joseph D. Neighbors,

Acting Director, Project Directorate I-1, Division of Reactor Projects I/II, Office of Nuclear Reactor Regulation.

[FR Doc. 89-2077 Filed 1-27-89; 8:45 am]

BILLING CODE 7590-01-M

Receipt of U.S. Department of Energy's Site Characterization Plan for Yucca Mountain, Nevada Site

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Notice of receipt of the Department of Energy's Site Characterization Plan for Yucca Mountain, Nevada Site.

SUMMARY: The Nuclear Regulatory Commission (NRC) has received for review and comment the Department of Energy's (DOE) Site Characterization Plan (SCP) for the Yucca Mountain, Nevada candidate site for a permanent geologic repository for high-level radioactive waste (HLW). Section 113(b) of the Nuclear Waste Policy Act of 1982 (NWPA) requires that the SCP provide "a general plan for site characterization activities" to be conducted. The purpose of site characterizaton is to collect pertinent geological and other information necessary to evaluate whether the site is suitable for a permanent geologic repository and, if found suitable, to provide DOE with data adequate to prepare and support a license application seeking from the NRC authorization to construct such a repository

As part of the pre-license application phase of the repository licensing process established by NWPA and the Nuclear Waste Policy Amendments Act of 1987 (NWPAA), the NRC is required to review and comment upon DOE's SCP, and in accord with 10 CFR 60.16, "DOE shall defer the sinking of such shafts until such time as there has been an opportunity for Commission comments thereon to have been solicited and considered by DOE." NRC anticipates completion of the review in a seven-month timeframe, culminating in issuance to DOE of a Site Characterization Analysis (SCA) with respect to the SCP, as well as such additional comments as may be warranted.

During its review of the SCP, the NRC will provide an opportunity for the State of Nevada and for affected local governments and Indian Tribes to present their views on the SCP and their suggestions with respect to comments thereon which may be made by the NRC. In addition, NRC staff will be made available to consult with the affected parties upon their written request pursuant to Subpart C of 10 CFR Part 60

At the time of issuance of the SCA, a notice of availability of the SCA and a request for public comment will be published in the **Federal Register**. Copies of the SCA and of the comments received will be made available at NRC's Public Document Room (PDR) located at 2120 L Street, NW., Lower Level, Washington, DC 20555 and local Public Document Rooms (LPDRs), located at the James R. Dickinson Library, Special Collections Department, University of Nevada-Las Vegas, 4505 Maryland Parkway, Las Vagas, Nevada 89154 and University Library, Government Publications Department, University of Nevada-Reno, Reno, Nevada 89557.

Copies of the SCP may be obtained from DOE by contacting: Stephen H. Kale, Associate Director, Office of Facilities Siting and Development, Office of Civilian Radioactive Waste Management, U.S. Department of Energy, RW-20, 1000 Independence Avenue, SW., Washington, DC 20585 or Carl P. Gertz, Project Manager, Yucca Mountain Project Office, U.S. Department of Energy, Box 98518, Las Vegas, Nevada 89193-8518.

NRC has made copies of the SCP available for public inspection in its PDR and LPDRs.

FOR FURTHER INFORMATION CONTACT: John J. Linehan, Director, Repository Licensing and Quality Assurance Project Directorate, Division of High-Level Waste Management, Office of Nuclear Material Safety and Safeguards, U.S.

Nuclear Regulatory Commission, Washington, DC 20555.

Dated at Rockville, Maryland, this 23rd day of January 1989.

For the Regulatory Commission.

Hugh L. Thompson, Jr.,

Director, Office of Nuclear Material Safety and Safeguards.

[FR Doc. 89-2081 Filed 1-27-89; 8:45 am]

BILLING CODE 7590-01-M

[Docket Nos. 50-317 and 50-318]

Baltimore Gas and Electric Co.; Consideration of Issuance of Amendments to Facility Operating Licenses and Opportunity for Hearing

The U.S. Nuclear Regulatory Commission (the Commission) is considering issuance of amendments to Facility Operating Licenses Nos. DPR-53 and DPR-69, issued to the Baltimore Gas and Electric Company (the licensee), for operation of the Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 and 2, located in Calvert County, Maryland.

The proposed amendments would provide a one time extension of four weeks beyond the end of the required surveillance interval for the performance of Type B and C local leak rate tests on containment penetrations as provided in Technical Specification 4.6.1.2.d. The proposed change reflects the operating cycle change from 18 months to 24 months and allows the testing frequency to change from a 24 month interval to the interval corresponding to the forthcoming refueling outage.

This proposed TS revision is in response to the licensee's application for amendments dated December 14, 1988.

Prior to issuance of the proposed license amendment, the Commission will have made findings required by the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations.

By March 1, 1989, the licensee may file a request for a hearing with respect to issuance of the amendments to the subject facility operating licenses and any person whose interest may be affected by this proceeding and who wishes to participate as a party in the proceeding must file a written request for a hearing and a petition for leave to intervene. Requests for a hearing and petitions for leave to intervene shall be filed in accordance with the Commission's "Rules of Practice for Domestic Licensing Proceedings" in 10 CFR Part 2. If a request for a hearing or petition for leave to intervene is filed by the above date, the Commission or an Atomic Safety and Licensing Board designated by the Commission or by the Chairman of the Atomic Safety and Licensing Board Panel, will rule on the request and/or petition; and the Secretary or the designated Atomic Safety and Licensing Board will issue a notice of hearing or an appropriate order.

As required by 10 CFR 2.714, a petition for leave to intervene shall set forth with particularity the interest of the petitioner in the proceeding, and how that interest may be affected by the results of the proceeding. The petition should specifically explain the reasons why intervention should be permitted with particular reference to the following factors: (1) The nature of the petitioner's right under the Act to be made a party to the proceeding; (2) the nature and extent of the petitioner's property, financial, or other interest in the proceeding; and (3) the possible effect of any order which may be entered in the proceeding on the petitioner's interest. The petition should also identify the specific aspect(s) of the subject matter of the proceeding as to which petitioner wishes to intervene. Any person who has filed a petition for leave to intervene or who has been admitted as a party may amend the petition without requesting leave of the Board up to fifteen (15) days prior to the first prehearing conference scheduled in the proceeding, but such an amended petition must satisfy the specificity requirements described above.

Not later than fifteen (15) days prior to the first prehearing conference scheduled in the proceeding, a petitioner shall file a supplement to the petition to intervene, which must include a list of the contentions that are sought to be litigated in the matter, and the bases for each contention set forth with reasonable specificity. Contentions shall be limited to matters within the scope of the amendment under consideration. A petitioner who fails to file such a supplement which satisfies these requirements with respect to at least one contention will not be permitted to participate as a party.

Those permitted to intervene become parties to the proceeding, subject to any limitations in the order granting leave to intervene, and have the opportunity to participate fully in the conduct of the hearing, including the opportunity to present evidence and cross-examine witnesses.

A request for a hearing or a petition for leave to intervene must be filed with the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Attention: Docketing and Service Branch, or may be delivered to the Commission's Public Document Room, Gelman Building 2120 L Street, NW., Washington, DC, by the above date. Where petitions are filed during the last ten (10) days of the notice period, it is requested that the petitioner promptly so inform the Commission by a toll-free telephone call to Western Union at 1-(800) 325-6000 (in Missouri 1-(800) 342-6700). The Western Union operator should be given Datagram Identification Number 3737 and the following message addressed to Robert A. Capra: Petitioner's name and telephone number; date petition was mailed; plant name; and publication date and page number of this **Federal Register** notice. A copy of the petition should also be sent to the Office of the General Counsel, U.S. Nuclear Regulatory Commission, Washington, DC 20555, and to D. A. Brune, Jr., General Counsel, Baltimore Gas and Electric Company, P.O. Box 1475, Baltimore, Maryland 21203, attorney for the licensee.

Nontimely filings of petitions for leave to intervene, amended petitions, supplemental petitions and/or requests for hearing will not be entertained absent a determination by the Commission, the presiding officer or the presiding Atomic Safety and Licensing Board that the petition and/or request should be granted based upon a balancing of the factors specified in 10 CFR 2.714(a)(1)(i)-(v) and 2.714(d).

If a request for a hearing is received, the Commission's staff may issue the amendment after it completes its technical review and prior to the completion of any required hearing if it publishes a further notice for public comment of its proposed finding of no significant hazards considerations in accordance with 10 CFR 50.91 and 50.92.

For further details with respect to this action, see the application for amendment dated December 14, 1988, which is available for public inspection at the Commission's Public Document Room, Gelman Building, 2120 L Street, NW., Washington, DC 20555, and at the Local Public Document Room, Calvert County Library, Prince Frederick, Maryland.

Dated at Rockville, Maryland, this 25th day of January 1989.

For The Nuclear Regulatory Commission.

Joseph D. Neighbors,

Acting Director, Project Directorate I-1, Division of Reactor Projects I/II.

[FR Doc. 89-2080 Filed 1-27-89; 8:45 am]

BILLING CODE 7590-01-M

[Docket Nos. 50-338 and 50-339]

Virginia Electric and Power Co.; Consideration of Issuance of Amendments to Facility Operating Licenses and Proposed No Significant Hazards; Consideration Determination and Opportunity for Hearing

The U.S. Nuclear Regulatory Commission (the Commission) is considering issuance of amendments to Facility Operating Licenses No. NPF-4 and NPF-7, issued to the Virginia Electric and Power Company (the licensee), for operation of the North Anna Power Station, Units No. 1 and No. 2 (NA-1&2) located in Louisa County, Virginia.

The amendments would revise the NA-1&2 Technical Specifications (TS) 3/4.9.10, Refueling Operations Water Level—Reactor Vessel, to allow control rod movement with the requirement of 23 feet of water above the irradiated fuel assemblies within the reactor pressure vessel. The proposed amendments remove the ambiguity associated with control rod latching and unlatching operations where control rods are raised (with the upper internals package installed) for weight or drag testing.

The proposed amendments would clarify the existing TS 3.9.10 by breaking it into two parts: TS 3.9.10.1 would address fuel assembles and assure that at least 23 feet of water will be maintained over the top of the reactor pressure vessel flange in Mode 6 during movement of fuel assembles within containment. References to control rod evolutions would be deleted. A new TS, 3.9.10.2, would be added to address control rod evolutions in Mode 6 and require at least 23 feet of water be maintained over the top of irradiated fuel assemblies within the reactor pressure vessel. This is consistent with the existing basis for the specification.

On April 1, 1987, the licensee submitted a proposed TS change for NA-1&2 which revised the applicability of TS 3.9.10, "Refueling Operations Water Level—Reactor Vessel," to conform to Standard Technical Specifications for Westinghouse Pressurized Water Reactors, NUREG-452, Rev. 3. The change was approved by the NRC on May 23, 1988 by issuance of License Amendment Nos. 102 and 89 for NA-1&2, respectively. As discussed in the NRC Safety Evaluation, the change allowed the removal of vessel internal assembles with less than the specified water level but still required 23 feet of water above the reactor pressure vessel flange whenever fuel assemblies or control rods are moved.

The upcoming 1989 refueling outage for NA-2, currently scheduled to begin February 10, 1989, is the first refueling outage which will be conducted under the revised TS. In preparation of the upcoming refueling, and subsequent discussion with the NRC staff, it was determined that the wording of the revised TS appeared to preclude a refueling evoluation that had previously been considered by the licensee to be routine. Current NA-1&2 refueling procedures and equipment design are based on this evolution.

Specifically, although not the intent of the TS, the wording could be interpreted to mean that weight/drag testing of control rods during unlatching/latching operations (i.e., movement) would require 23 feet of water above the reactor pressure vessel flange. The licensee believes these control rod unlatching/latching evolutions directly support and are part of the reactor vessel upper internals removal/installation evolutions. Until now, the licensee's normal refueling sequence has required the water level to be lowered to 23 feet above the top to the fuel assemblies within the reactor vessel for removal/installation of the upper internals package and maintained at that level during control rod unlatching/latching. The licensee believes that evolution is acceptable, as is, and should not now be precluded because of this rewording of the TS in May 1988.

Once the concern was identified, the license worked with the NRC staff in the fourth quarter of 1988 to determine the appropriate mechanism for correctly interpreting or clarifying TS 3.9.10. The licensee worked in good faith, attempting to resolve the issue in an efficient manner. After several discussions with the NRC staff, the licensee submitted a letter on December 23, 1988 requesting concurrence with the licensee's interpretation of the TS as described above. On January 4, 1989 the licensee was informed by the NRC staff that the appropriate mechanism to resolve the issue would be to submit a TS change.

Because the guidance to submit a TS change was received on January 4, 1989, and the NA-2 refueling outage is scheduled to commence February 10, 1989, insufficient time remains for publication of the 30 day notice in the **Federal Register**. Therefore, the licensee has requested that the change be processed in an exigent manner.

The licensee believes that appropriate and timely actions were taken prior to, and including the licensee's submittal for, an exigent TS change dated January 13, 1989. The licensee worked with the appropriate NRC staff to understand and define the scope of the TS in question. In addition, the licensee attempted to obtain clarification in December 1988 and acted promptly when notified in early January 1989 that the licensee's effort to obtain clarifiation was not the appropriate vehicle to resolve the issue and that a TS change would be required. In summary, the licensee believed that these actions constitute a best effort at obtaining resolution in a timely manner and that sufficient justification has been presented to permit exigent processing of the requested TS change.

The Commission has made a proposed determination that the amendment request involves no significant hazards considerations. Under the Commission's regulations in 10 CFR 50.92, this means that operation of the facility in accordance with the proposed amendments would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety. The proposed change does not involve a significant hazards consideration as defined in 10 CFR 50.92 because operation of NA-1&2 in accordance with this change would not:

(1) Involve a significant increase in the probability or consequences of an accident previously evaluated. This change does not alter the conditions or assumptions of the accident anaylsis or the basis of the current TS. Fuel handling operations during refueling are unchanged and the refueling water level requirement remains consistent with the accident analysis assumptions in the UFSAR concerning the minimum required water level. Therefore the probability and the consequences of the fuel handling accident are not increased.

(2) Create the possibility of a new or different kind of accident from any accident previously identified. This change does not alter the conditions or assumptions of the accident analysis or the basis of the current TS. Fuel handling operations during refueling are unchanged and therefore the fuel handling accident evaluated in the UFSAR remains bounding in terms of the type of accidents that may occur and a new and different kind of accident is not created.

(3) Involve a significant reduction in a margin of safety. This change does not alter the conditions or assumptions of the accident analysis or the basis of the current TS. Fuel handling operations during refueling are unchanged and the

refueling water level requirement remains consistent with the assumptions of the accident analysis. Consequently, the margin of 10 CFR Part 100 dose limits is not reduced.

Accordingly, the Commission proposes to determine that this change does not involve significant hazards considerations.

The Commission is seeking public comments on this proposed determination. Any comments received within 15 days after the date of publication of this notice will be considered in making any final determination. The Commission will not normally make a final determination unless it receives a request for a hearing.

Written comments may be submitted by mail to the Regulatory Publications Branch, Division of Freedom of Information and Publications Services, Office of Administration and Resources Management, U.S. Nuclear Regulatory Commission, Washington, DC 20555, and should cite the publication date and page number of the **Federal Register** notice.

Written comments may also be delivered to Room P-216, Phillips Building, 7920 Norfolk Avenue, Bethesda, Maryland from 8:15 a.m. to 5:00 p.m. Copies of written comments received may be examined at the NRC Public Document Room, the Gelman Building, 2120 L Street, NW., Washington, DC. The filing of requests for hearing and petitions for leave to intervene is discussed below.

By March 1, 1989, the licensee may file a request for a hearing with respect to issuance of the amendments to the subject facility operating licenses and any person whose interest may be affected by this proceeding and who wishes to participate as a party in the proceeding must file a written request for hearing and a petition for leave to intervene. Requests for a hearing and petitions for leave to intervene shall be filed in accordance with the Commission's "Rule of Practice for Domestic Licensing Proceedings" in 10 CFR Part 2. If a request for a hearing or petition for leave to intervene is filed by the above date, the Commission or an Atomic Safety and Licensing Board, designated by the Commission or by the Chairman of the Atomic Safety and Licensing Board Panel, will rule on the request and/or petition; and the Secretary or the designated Atomic Safety and Licensing Board will issue a notice of hearing or an appropriate order.

As required by 10 CFR 2.714, a petition for leave to intervene shall set forth with particularity the interest of the petitioner in the proceeding, and how that interest may be affected by the results of the proceeding. The petition should specifically explain the reasons why intervention should be permitted with particular reference to the following factors: (1) The nature of the petitioner's right under the Act to be made a party to the proceeding; (2) the nature and extent of the petitioner's property, financial, or other interest in the proceeding; and (3) the possible effect of any order which may be entered in the proceding on the petitioner's interest. The petition should also identify the specific aspect(s) of the subject matter of the proceeding as to which petitioner wishes to intervene. Any person who has filed a petition for leave to intervene or who has been admitted as a party may amend the petition without requestion leave of the Board up to fifteen (15) days prior to the first pre-hearing conference scheduled in the proceeding, but such as amended petition must satisfy the specificity requirements described above.

Not later than fifteen (15) days prior to the first prehearing conference scheduled in the proceeding, a petitioner shall file a supplement to the petition to intervene, which must include a list of the contentions that are sought to be litigated in the matter, and the bases for each contention set forth with reasonable specificity. Contentions shall be limited to matters within the scope of the amendments under consideration. A petitioner who fails to file such a supplement which satisfies these requirements with respect to at least one contention will not be permitted to participate as a party.

Those permitted to intervene become parties to the proceeding, subject to any limitations in the order granting leave to intervene, and have the opportunity to participate fully in the conduct of the hearing, including the opportunity to present evidence and cross-examine witnesses.

If the amendments are issued before the expiration of 30-days, the Commission will make a final determination on the issue of no significant hazards considerations. If a hearing is requested, the final determination will serve to decide when the hearing is held.

If the final determination is that the amendment request involves no significant hazards considerations, the Commission may issue the amendments and make it effective, notwithstanding the request for a hearing. Any hearing held would take place after issuance of the amendments.

If the final determination is that the amendment request involves significant hazards considerations, any hearing held would take place before the issuance of any amendment.

Normally, the Commission will not issue the amendment until the expiration of the 15-day notice period. However, should circumstances change during the notice period, such that failure to act in a timely way would result, for example, in derating or shutdown of the facility, the Commission may issue the license amendments before the expiration of the 15-day notice period, provided that its final determination is that the amendments involve no significant hazards considerations. The final determination will consider all public and State comments received. Should the Commission take this action, it will publish a notice of issuance. The Commission expects that the need to take this action will occur very infrequently.

A request for a hearing or a petition for leave to intervene must be filed with the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Attention: Docketing and Service Branch, or may be delivered to the Commission's Public Document Room, the Gelman Building, 2120 L Street, NW., Washington, DC, by the above date. Where petitions are filed during the last ten (10) days of the notice period, it is requested that the petitioner promptly so inform the Commission by a toll-free telephone call to Western Union at 1-(800) 325-6000 (in Missouri 1-(800) 342-6700). The Western Union operator should be given Datagram Identification Number 3737 and the following message addressed to Herbert N. Berkow: Petitioner's name and telephone number; date petition was mailed; plant name; and publication date and page number of this **Federal Register** notice. A copy of the petition should also be sent to the Office of the General Counsel, U.S. Nuclear Regulatory Commission, Washington, DC 20555, and to Michael W. Maupin, Esq., Hunton and Williams, P.O. Box 1535, Richmond, Virginia 23212.

Nontimely filings of petitions for leave to intervene, amended petitions, supplemental petitions and/or requests for hearing will not be entertained absent a determination by the Commission, the presiding officer or the presiding Atomic Safety and Licensing Board that the petition and/or request should be granted based upon a balancing of the factors specified in 10 CFR 2.714(a)(1)(i)-(v) and 2.714(d).

For further details with respect to this action, see the application for amendments dated January 13, 1989,

which is available for public inspection at the Commission's Public Document Room, the Gelman Building, 2120 L Street, NW., Washington, DC 20555, and at the Local Public Document Room, The Alderman Library, Manuscripts Department, University of Virginia, Charlottesville, Virginia 22901.

Dated at Rockville, Maryland, this 25th day of January, 1989.

For the Nuclear Regulatory Commission.

Leon B. Engle,

Project Manager, Project Directorate II-2, Division of Reactor Projects I/II, Office of Nuclear Reactor Regulation.

FR Doc. 89-2078 Filed 1-27-89; 8:45 am]

BILLING CODE 7590-01-M

SECURITIES AND EXCHANGE COMMISSION

Self-Regulatory Organizations; Applications for Unlisted Trading Privileges and of Opportunity for Hearing; Midwest Stock Exchange, Inc.

January 23, 1989.

The above named national securities exchange has filed applications with the Securities and Exchange Commission pursuant to section 12(f)(1)(B) of the Securities Exchange Act of 1934 and Rule 12f-1 thereunder, for unlisted trading privileges in the following securities:

MNC Financial Inc.
Common Stock, $2.50 Par Value (File No. 7-4166)
Public Service of New Hampshire
Warrants expiring 10/15/91 (File No. 7-4167)
Winchell Donut Houses
Common Stock, No Par Value (File No. 7-4168)
Pacificorp
Common Stock, $3.25 Par Value (File No. 7-4169)
MCN Corporation
Common Stock, $.01 Par Value (File No. 7-4170)
Homefed Corporation
Common Stock, $.01 Par Value (File No. 7-4171)

These securities are listed and registered on one or more other national securities exchanges and are reported in the consolidated transaction reporting system.

Interested persons are invited to submit on or before February 13, 1989, written data, views and arguments concerning the above-referenced applications. Persons desiring to make written comments should file three copies thereof with the Secretary of the Securities and Exchange Commission, 450 Fifth Street, NW., Washington, DC 20549. Following this opportunity for hearing, the Commission will approve the applications if it finds, based upon all the information available to it, that the extensions of unlisted trading privileges pursuant to such applications are consistent with the maintenance of fair and orderly markets and the protection of investors.

For the Commission, by the Division of Market Regulation, pursuant to delegated authority.

Jonathan G. Katz,

Secretary.

[FR Doc. 89-2055 Filed 1-27-89; 8:45 am]

BILLING CODE 8010-01-M

[Release No. 34-26482; File No. SR-NASD-88-54]

Self-Regulatory Organizations; Filing of Proposed Rule Change by the National Association of Securities Dealers, Inc. Relating to the Position and Exercise Limits of the Rules Applicable to Options Trading

Pursuant to section 19(b)(1) of the Securities Exchange Act of 1934 ("Act"), 15 U.S.C. 78s(b)(1), notice is hereby given that on December 2, 1988, the National Association of Securities Dealers, Inc. ("NASD") filed with the Securities and Exchange Commission ("Commission") the proposed rule change as described in Items I, II and III below, which Items have been prepared by the NASD. The Commission is publishing this notice to solicit comments on the proposed rule change from interested persons.

I. Self-Regulatory Organization's Statement of the Terms of Substance of the Proposed Rule Change

The NASD is proposing to amend section 3 of Appendix E to Article III, section 33 of the NASD Rules of Fair Practice ("Appendix E") to permit automatic exemptions from position and exercise limits contained in sections 3 and 4 of Appendix E for fully hedged equity options for a two year pilot program period. In addition, the NASD is proposing technical amendments to section 3 of Appendix E to clarify that the position and exercise limits contained in sections 3 and 4 are applicable to conventional stock options and exchange-traded index options.[1]

[1] Under the proposed rule change, the position limits applicable to exchange-traded index options are those established by the "exchange on which the option trades."

II. Self-Regulatory Organization's Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change

In its filing with the Commission, the NASD included statements concerning the purpose of, and basis for, the proposed rule change and discussed any comments it received on the proposed rule change. The text of these statements may be examined at the places specified in Item IV below. The NASD has prepared summaries, set forth in sections (A), (B), and (C) below, of the most significant aspects of such statements.

A. Self-Regulatory Organization's Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change

The proposed rule change provides for a two year pilot program during which certain fully hedged equity option positions will be automatically exempt from the position and exercise limits for equity options set forth in Appendix E. The purpose of the proposed rule change is to increase position and exercise limits for equity options by creating a limited exemption for the four most commonly used hedged positions for a two year period. The proposed rule change will permit *bona fide* hedgers to take equity option positions that are twice the exchange's and the NASD's currently stated limits of 3,000, 5,500, and 8,000 contracts, depending on the number of shares of the underlying security outstanding and/or the underlying security's trading volume.

During the two year pilot program, the NASD is proposing to automatically exempt from equity option position and exercise limits, those option accounts that have established one of the four most commonly used options hedged positions on a one-for-one basis (*i.e.*, one hundred shares of stock for one option contract). The four most commonly used hedged positions are long stock and short call, long stock and long put, short stock and long call, and short stock and short put. In addition, no change is being proposed to Section 4 of Appendix E with the result that exercise limits will continue to correspond to position limits. Thus, members or persons associated with members will be allowed to exercise, during any five consecutive business days, the same number of contracts set forth as the position limit for that option.

The proposed rule change is substantively identical to those filed by the American, Pacific, and Philadelphia Stock Exchanges, as well as the Chicago

Board Options Exchange ("options exchanges") and subsequently approved by the Commission.[2] In order to make the NASD's options rules consistent with those of the options exchanges, the NASD has determined to file the above-referenced rule change with the Commission.

In addition, the NASD is proposing to amend Section 3 of Appendix E to clarify that the position and exercise limits contained in Sections 3 and 4 are applicable to conventional stock options and exchange-traded index options. Because it was never the NASD's intention to exclude conventional stock options and exchange-traded index options from the position and exercise limit provisions of Appendix E, the NASD is proposing to amend Appendix E to specifically include these types of options within its provisions.

Because the proposed rule changes are designed to make the position and exercise limits of Appendix E more consistent with those of the options exchanges and to clarify that both conventional and exchange-traded index options are included in the position and exercise limits, the NASD believes the proposed rule amendments are consistent with the provisions of section 15A(b)(6) under the Act which provides, in pertinent part, that the rules of an association be designed to "remove impediments to and perfect the mechanism of a free and open market and a national market system."

B. Self-Regulatory Organization's Statement on Burden on Competition

The Association believes that the proposed rule changes do not impose any burden on competition not necessary or appropriate in furtherance of the purposes of the Act.

C. Self-Regulatory Organization's Statement on Comments on the Proposed Rule Change Received from Members, Participants, or Others

Written comments were neither solicited nor received.

III. Date of Effectiveness of the Proposed Rule Change and Timing for Commission Action

Within 35 days of the date of publication of this notice in the **Federal Register** or within such longer period (i) as the Commission may designate up to 90 days of such date if it finds such longer period to be appropriate and publishes its reasons for so finding or (ii) as to which the self-regulatory organization consents, the Commission will:

(a) By order approve such proposed rule change, or

(b) Institute proceedings to determine whether the proposed rule change should be disapproved.

IV. Solicitation of Comments

Interested persons are invited to submit written data, views and arguments concerning the foregoing. Persons making written submissions should file six copies thereof with the Secretary, Securities and Exchange Commission, 450 Fifth Street, NW., Washington, DC 20549. Copies of the submission, all subsequent amendments, all written statements with respect to the proposed rule change that are filed with the Commission, and all written communications relating to the proposed rule change between the Commission and any person, other than those that may be withheld from the public in accordance with the provisions of 5 U.S.C. 552, will be available for inspection and copying in the Commission's Public Reference Section, 450 Fifth Street, NW., Washington, DC. Copies of such filing will also be available for inspection and copying at the principal office of the above-mentioned self-regulatory organization. All submissions should refer to the file number in the caption above and should be submitted by February 21, 1989.

For the Commission, by the Division of Market Regulation, pursuant to delegated authority.[3]

Jonathan G. Katz,

Secretary.

January 23, 1989.

[FR Doc. 89-2054 Filed 1-27-89; 8:45 am]

BILLING CODE 8010-01-M

[2] *See* Securities and Exchange Act Release No. 25738 (May 24, 1988), 53 FR 20201, order approving SR-AMEX-87-13, SR-CBOE-87-27, and SR-PHLX-87-32; and Securities and Exchange Act Release No. 25811 (June 10, 1988), 53 FR 23821, order approving SR-PSE-88-9.

[3] 17 CFR 200.30-3(a)(12) (1986).

[Release No. 34-26483; File No. SR-NYSE-88-44]

Self-Regulatory Organizations; Proposed Rule Change by New York Stock Exchange, Inc. Relating to Rate Increases Affecting Listing Fees

Pursuant to section 19(b)(1) of the Securities Exchange Act of 1934, 15 U.S.C. 78s(b)(1), notice is hereby given that on December 30, 1988, the New York Stock Exchange, Inc. ("NYSE" or "Exchange") filed with the Securities and Exchange Commission ("SEC" or "Commission") the proposed rule change as described in Items I, II and III below, which items have been prepared by the self-regulatory organization. The Commission is publishing this notice to solicit comments on the proposed rule change from interested persons.

I. Self-Regulatory Organization's Statement of the Terms of Substance of the Proposed Rule Change

The Exchange is instituting listing fee increases and an advance billing schedule affecting initial and continued listing fees.[1] In addition, a maximum annual fee is being established and the maximum listing fee for stock splits is being reduced. These fees will be changed commencing January 1, 1989.[2]

II. Self-Regulatory Organization's Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change

In its filing with the Commission, the self-regulatory organization included statements concerning the purpose of and basis for the proposed rule change and discussed any comments it received on the proposed rule change. The text of these statements may be examined at the places specified in Item IV below. The self-regulatory organization has prepared summaries, set forth in sections (A), (B), and (C) below, of the most significant aspects of such statements.

(A) Self-Regulatory Organization's Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change

(1) Purpose

The purpose of this change is to offset in part the increased costs of supplying services provided by the Exchange. These costs include manpower, systems, and utilities associated with providing marketplace services.

(2) Statutory Basis

The basis under the Act for the proposed rule change is section 6(b)(4) permitting the rules of an Exchange to provide for the equitable allocation of reasonable dues, fees, and other charges among its members, issuers and other persons using its facilities.

(B) Self-Regulatory Organization's Statement on Burden on Competition

The Exchange does not believe that the proposed rule change will impose any burden on competition that is not

[1] The advanced billing schedule will be phased in for listed companies over a three-year period.

[2] Exhibits II-IV of the Exchange's filing, which detail the amended fee schedules and billing procedures, are available for inspection in the Public Reference Branch at Commission headquarters in Washington, DC.

necessary or appropriate in furtherance of the purposes of the Act.

(C) Self-Regulatory Organization's Statement on Comments on the Proposed Rule Change Received from Members, Participants, or Others

The Exchange has not solicited written comments regarding the proposed change, and no unsolicited written comments have been received.

III. Date of Effectiveness of the Proposed Rule Change and Timing For Commission Action

Within 35 days of the date of publication of this notice in the **Federal Register** or within such longer period (i) as the Commission may designate up to 90 days of such date if it finds such longer period to be appropriate and publishes its reasons for so finding or (ii) as to which the self-regulatory organization consents, the Commission will:

(a) By order approve such proposed rule change, or

(b) Institute proceedings to determine whether the proposed rule change should be disapproved.

IV. Solicitation of Comments

Interested persons are invited to submit written data, views and arguments concerning the foregoing. Persons making written submissions should file six copies thereof with the Secretary, Securities and Exchange Commission, 450 Fifth Street, NW., Washington, DC 20549. Copies of the submission, all subsequent amendments, all written statements with respect to the proposed rule change that are filed with the Commission, and all written communications relating to the proposed rule change between the Commission and any person, other than those that may be withheld from the public in accordance with the provisions of 5 U.S.C. 552, will be available for inspection and copying in the Commission's Public Reference Branch, 450 Fifth Street NW., Washington, DC. Copies of such filing will also be available for inspection and copying at the principal office of the above-mentioned self-regulatory organization. All submissions should refer to the file number in the caption above and should be submitted by February 21, 1989.

For the Commission by the Division of Market Regulation, pursuant to delegated authority.

Jonathan G. Katz,

Secretary.

January 23, 1989.

[FR Doc. 89-2094 Filed 1-27-89; 8:45 am]

BILLING CODE 8010-01-M

[Release No. 34-26487; File No. SR-NYSE-88-33]

Self-Regulatory Organizations; New York Stock Exchange, Inc.; Order Approving Proposed Rule Change

On October 20, 1988, the New York Stock Exchange, Inc. ("NYSE" or "Exchange") filed with the Commission, pursuant to section 19(b)(1) of the Securities Exchange Act of 1934 ("Act") and Rule 19b-4 thereunder,[1] copies of a proposed rule change to impose allocation restrictions on a specialist unit that either loses its registration in a specialty stock as a result of a performance improvement action or disciplinary proceedings or voluntarily withdraws its registration in a specialty stock due to an impending performance improvement or disciplinary action.

Notice of the proposal together with its terms of substance was provided by the issuance of a Commission release (Securities Exchange Act Release No. 26278, November 14, 1988) and by publication in the **Federal Register** (53 FR 46962). No comments were received in connection with the proposal.

Under the proposal, a specialist unit would be prohibited from applying for new listings for a six month period ("Allocation Prohibition")[2] immediately following the reallocation of the unit's specialty stock as a result of:

(1) A performance improvement action in which the Exchange finds that the unit failed to meet certain performance requirements provided for in NYSE Rule 103A[3];

(2) Proceedings under NYSE Rule 475, which authorizes the Exchange to prohibit or limit a member's access to Exchange services and Rule 476, which provides for the commencement of disciplinary proceedings for violations of Exchange rules and practices and certain other infractions; or

(3) A voluntary rescission of a unit's registration in a specialty stock due to a possible reallocation of the specialty stock under Rules 103A, 475, or 476.

After the initial six month allocation restriction period, the specialist unit will be permitted to apply for new listings during the following six months, only if the unit demonstrates that it has undertaken adequate measures to address the circumstances surrounding the reallocation of its stock.[4] In the event the Exchange staff determines that the unit's corrective measures did not adequately address the circumstances surrounding the reassignment of the unit's stock, the unit would not be permitted to apply for new listings at that time.[5] A unit could, however, apply for another new listing at a later date during the second six month period; however, the submission of an application for a new listing would trigger an Exchange review of the unit's corrective measures. At the conclusion of the second six month restriction period, the specialist unit's eligibility to participate in the Exchange's allocation process would be fully restored.

The Exchange indicates that the new policy is designed to complement the Exchange's proposed new Allocation Policy,[6] which provides standards to be considered by the Allocation Committee in awarding new stocks but which does not specifically restrict a specialist unit's ability to receive new allocations following the reassignment or withdrawal of registration in a specialty stock due to an actual or anticipated disciplinary or performance improvement action. The Exchange further indicates that the policy is intended to complement NYSE Rule 103A, which, as noted above, provides for the reallocation of one or more of a unit's specialty stocks for substandard performance. The Exchange believes that it would be inappropriate for a specialist unit to receive a new listing during a period of time immediately following the loss of its registration in a stock pursuant to a reallocation proceeding. In addition, the Exchange maintains that there should be no distinction between a unit that loses its registration in a stock as a result of a

[1] 15 U.S.C. 78s(b)(1) and 17 CFR 240.19b-4.

[2] *See* SR-NYSE-88-33, Exhibit A ("Exhibit A").

[3] Pursuant to Rule 103A, specialist units are evaluated on a quarterly basis utilizing a combination of subjective and objective performance measures. The rule authorizes the Exchange to reallocate one or more of a unit's registered securities where the unit consistently fails to meet minimum performance requirements contained in the rule. *See* Securities Exchange Act Release No. 25681 (May 9, 1988), 53 FR 27287

[4] The determination of whether a unit may apply for new listings during this second six month period will be made by the Exchange staff in consultation with Floor Directors. In making this determination, the Exchange staff will have the discretion to consider, among other things, whether the unit hired additional manpower, including back office personnel, changes in the unit's professional staff, whether the unit implemented more stringent supervisory procedures, and its dealer participation rates in its specialty stock.

[5] Even if the Exchange allows a unit to apply for a new allocation during this second six month period, the unit's disciplinary history, which will include a record of both the allocation restriction and the circumstances surrounding the reallocation of the unit's stock, will be provided to the Exchange Allocation Committee.

[6] *See* SR-NYSE-88-32, Noticed in Securities Exchange Act Release No. 26277 (November 14, 1988), 53 FR 46959.

performance improvement or disciplinary action and a unit that voluntarily cancels its registration in a registered stock because of the potential reallocation of a stock.[7] Accordingly, the Exchange believes that the proposal will prevent a unit from avoiding the proposed allocation restrictions by negotiating a settlement of a pending action.

Finally, the Exchange believes that the proposal is consistent with section 6(b) of the Act in that it will enhance its ability to ensure the fair allocation of securities to specialist units and to prevent the allocation of securities to specialist units whose performance is below acceptable standards.

After careful consideration, the Commission believes that the proposal to impose allocation restrictions on certain specialist units is consistent with the Act and therefore has determined to approve the filing. In particular, the Commission believes, as the Exchange maintains, that a specialist unit whose performance leads to the reallocation of a specialty stock should not be allowed to participate in the allocation process until it demonstrates that its performance has improved. In this regard, the Commission believes that the initial six month allocation prohibition period should provide the unit with sufficient time to develop and implement the necessary corrective measures to rectify the deficiencies which lead to the reassignment of its specialty stock. The success of the unit's improvement initiatives during this period will determine whether it will be permitted to apply for new listings during the second six month period.[8]

Further, the allocation restriction policy will act as an incentive for improved specialist performance. Because the unit will be precluded from applying for new allocations during the allocation prohibition and conditionally prohibited for the following six months, the Commission believes that a unit will find it advantageous to avoid the consequences of a reallocation of an assigned security and subsequent imposition of the allocation restrictions by maintaining quality markets in its assigned securities as well as complying with Exchange rules and policies.

Under the proposal, the reallocation and subsequent imposition of the allocation restrictions is not a permanent impediment to a unit's future allocation success. In the event that a unit's speciality stock is realloated and the restriction period triggered, the unit has, as noted above, six months to institute the necessary reforms to correct its deficiencies. The unit could only be restricted for an additional six month period if the Exchange staff finds that the unit has not taken adequate steps to resolve the circumstances giving rise to the reallocation. Accordingly, at most, a unit could only be precluded from applying for new allocations for a twelve month period. The Commission does not believe a potential twelve month allocation bar for units that have had stocks reallocated is too restrictive. Rather, we strongly believe it is consistent with investor protection, the public interest and the maintenance of fair and orderly markets to impose temporary allocation restrictions on specialists who have had a speciality stock reallocated due to poor performance and/or disciplinary action.

Finally, the Commission believes that the safeguards provided for in the procedures governing performance improvement and discipliary proceedings will ensure that a specialist unit subject to the allocation restrictions will receive proper notice and the opportunity to defend its performance prior to the imposition of the allocation restrictions. For the reasons noted above, the Commission finds that the proposed rule change is consistent with the requirements of the Act and the rules and regulations thereunder applicable to a national securities exchange, and, in particular, the requirements of section 6 and the rules and regulations thereunder.

It is therefore ordered, pursuant to section 19(b)(2) of the Act, that the above mentioned proposed rule change be, and hereby is approved.

For the Commission, by the Division of Market Regulation, pursuant to delegated authority.

Jonathan G. Katz,

Secretary.

Dated: January 24, 1989.

[FR Doc. 89-2103 Filed 1-27-89; 8:45 am]

BILLING CODE 8010-01-M

[7] In addition, the Exchange notes that the new policy is designed to address Commission concerns highlighted in the Commission's 1987 Market Break Report regarding NYSE specialist performance. *See* Securities Exchange Act Release No. 26278, November 14, 1988, 53 FR 46962.

[8] In this regard, we note that the steps identified as factors that may be considered by the Exchange staff in reviewing a unit's improvement efforts should serve as guidelines for the unit to consider when developing its improvement initiatives.

[Release No. 34-26484; File No. SR-PSE-88-23]

Self-Regulatory Organizations; Pacific Stock Exchange, Inc.; Order Approving Proposed Rule Change Relating to a Policy for Allocating Booth Space on the PSE Options Trading Floor

On October 11, 1988 the Pacific Stock Exchange, Inc. ("PSE" or "Exchange"), submitted to the Securities and Exchange Commission ("Commission"), pursuant to section 19(b)(1) of the Securities Exchange Act of 1934 ("Act") [1] and Rule 19b-4 thereunder,[2] a proposed rule change to adopt a policy for the allocation of booth space on the PSE options trading floor.

The proposed rule change was noticed in Securities Exchange Act Release No. 26266 (November 9, 1988), 53 FR 46175 (November 16, 1988). No comments were received on the proposed rule change.

The PSE's proposed booth allocation policy consists of two components, the booth allocation formula and booth utilization guidelines. The booth allocation formula will be used to determine the number of booths to which PSE member firms will be entitled, while the booth utilization guidelines will be used to determine whether allocated booths are being sufficiently utilized. Pursuant to the utilization guidelines booths which are not sufficiently utilized are subject to forefeiture and reassignment, notwithstanding any entitlement pursuant to the booth allocation formula.

The booth allocation formula is comprised of three components: (1) Monthly trades, (2) monthly contracts, and (3) number of employees. The three components are averaged to obtain the percentage of existing PSE booths to which each member firm is entitled (*e.g.*, If a particular firm executed 17.53% of the Exchange's monthly contracts, 16.16% of the monthly trades, and employed 9.45% of the floor personnel that firm would be entitled to 14.38% of PSE options trading floor booth space ($17.53 + 16.16 + 9.45/3 = 14.38$)). The booth figures for both clearing firms and retail/stock execution firms are compiled on a monthly as well as quarterly basis, and a rolling six-month evaluation is used for purposes of determining the allocation (or reallocation) of booth space. In this regard, if a firm requests additional booth space based on, for example, an unanticipated increase in monthly

[1] 15 U.S.C. 78s(b)(1) (1982).

[2] 17 240.19b-4 (1988).

trades, the Exchange would base reallocation on the figures from the six months immediately preceding the request. The next six-month evaluation or booth space would then be based upon the date on which booths were reallocated pursuant to the member firm request.

Initially, booth space for clearing firms and retail/stock execution firms will be calculated pursuant to the booth allocation formula; however, the clearing firms' percentages will be separated and adjusted to reflect the current percentage of booth space which clearing firms utilize.[3] Thus, if a clearing firm is entitled to 30% of 200 booths available on the options floor (60 booths) that firm would be allocated only 38 booths (63.3% of 60=38). Moreover, the residual of the total 200 booths, after adjusting for current clearing firm utilization, will be divided amongst the retail/stock execution firms according to the percentage of the original 200 booths to which such firms are entitled pursuant to the booth allocation formula.[4]

The evaluation of booth utilization is based on several criteria listed below in order of priority: (1) Effective utilization of booth by the staff of the member firm leasing the booth (occupied at least 50% of the trading day); (2) at least one operational phone; (3) member firm support equipment (i.e. order machines); (4) interrogation devices; and (5) a minimum of three to five working voice lines; not including any second party lines. The evaluation of booth space utilization does not include a firm's use of the space for trade matching or any other type of trading support operation that may be carried out effectively elsewhere.[5]

The PSE options floor booth allocation policy consists also of several subordinate issues. First, both formal and informal subleasing of booth space by one member to another member firm is prohibited. Thus, subleasing does not constitute effective booth utilization pursuant to the booth utilization guidelines. However, a member firm may allow another member firm to install, pursuant to written Exchange approval, either a single phone or drop line in its booth space. However, Exchange approved phones or drop lines also will not be considered in evaluating booth utilization of the member firm allocated the booth space. Second, physical alterations of a booth are made at the expense of the member firm leasing the booth and requires the Exchange's prior approval. The member firm must return the booth to its original condition upon vacating the space. Third, booth space vacated for any reason and booth space occupied by a member firm that merges with another member firm automatically will revert back to the Exchange. The surviving member firm of a merger will be given a higher degree of consideration for the reallocation of booth space. Fourth, a member firm may request additional booth space based upon the anticipation of increased volume. After a period not to exceed six months, the Exchange will evaluate the requesting member firm's booth space to determine if the additional allocated space is being sufficiently utilized pursuant to the booth utilization guidelines. Finally, the Exchange reserves the right to maintain or recall 5% of the total booth space available in order to satisfy any new or additional requests for booth space on the options trading floor.

The PSE states that the proposed options floor booth allocation policy is designed to provide a fair and equitable procedure for allocating approximately 200 both spaces to member firms on the Exchange's options trading floor. The Exchange notes that because a majority of these booths are presently leased to member firms, the increasing requests by member firms for additional booth space on the Exchange's options floor substantially outnumber the present available booth space. The Exchange also notes that many of the presently vacated booths are located in non-prime areas,[6] and that there are a number of booth spaces which are not being effectively utilized by member firms. The PSE suggests that member firm unwillingness to vacate underutilized booth space for reallocation to other member firms that have shown a substantial business need for more booth space necessitates the formulation of a policy that would allocate the booth space on the Exchange's options floor based on a member firm's utilization of such booth space.

The Commission finds that the proposed rule change is consistent with the requirements of the Act and the rules and regulations thereunder applicable to a national securities exchange, and, in particular, the requirements of Section 6 and the rules and regulations thereunder. More specifically, the Commission believes it is appropriate for the PSE, in connection with its recent review of options floor booth space and existing allocation policy, to revise such policy so as to take into consideration historical trading data (number of trades and contracts) and the number of employees used to support each operation, thereby providing a more fair and equitable procedure for allocating options floor booth space. In this regard, the Commission notes that it is logical to provide the majority of booth space to those member firms who execute the majority of monthly trades and contracts.

In addition, the Commission believes that an Exchange policy which provides for the recall of underutilized booth space and the reallocation of such space to member firms that have shown a substantial business need for more booth space may help provide additional depth and liquidity to PSE options by providing more active member firms prime area space from which to execute additional options transactions. In this regard, the Commission believes that the PSE's decision to identify and establish priorities for five specific factors the Exchange will consider with regard to effective use of booth space allocated to member firms is reasonable given the limited booth space available on the PSE floor the specification of criteria for judging booth utilization, and the establishment of procedures to appeal exchange decisions concerning booth utilization.[7]

It is therefore ordered, pursuant to section 19(b)(2) of the Act,[8] that the proposed rule change be, and hereby is, approved.

For the Commission, by the Division of Market Regulation, pursuant to delegated authority.[9]

Dated: January 23, 1989.

Jonathan G. Katz,

Secretary.

[FR Doc. 89-2095 Filed 1-27-89; 8:45 am]

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[3] Presently, PSE clearing firms utilize approximately 63.3% of the booth space to which they are entitled.

[4] Assuming there is a 15% residual of the total 200 booths and that a retail/stock execution firm was entitled to 11% of the original 200 booths, that firm is now entitled to an additional 1.65% of the 200 booths (11% of 15% = 1.65%).

[5] The PSE has indicated that booth utilization analyses will be performed no more frequently than on a quarterly basis. Telephone conversation between Craig Carberry, Director, Options Compliance, PSE, and Joseph Furey, Division of Market Regulation, SEC, dated January 9, 1989.

[6] Prime area is defined as a booth either near a trading crowd, near active posts, or near a central passageway.

[7] *See* Letter from Craig R. Carberry, Director, Options Compliance, PSE, to Joseph Furey, Branch Chief, Division of Market Regulation, SEC, dated January 20, 1989.

[8] 15 U.S.C. 78s(b)(2) (1982).

[9] 17 CFR 200.30-3(a)(12) (1988).

[Release No. 34-26478; File No. SR-PHLX-88-37]

Self-Regulatory Organizations; Philadelphia Stock Exchange, Inc.; Order Approving Proposed Rule Change Relating to French Franc Option Specifications

Pursuant to section 19(b)(1) of the Securities Exchange Act of 1934 ("Act") [1] and Rule 19b-4 thereunder [2] the Philadelphia Stock Exchange, Inc. ("PHLX" or "Exchange") on November 18, 1988, submitted to the Securities and Exchange Commission ("SEC" or "Commission") a proposal to increase the unit of trading of the French franc foreign currency options from 125,000 francs to 250,000 francs and to modify the minimum fractional change for dealing on the Exchange in French franc option contracts from $.00005 to $.00002.

The proposed rule change was published for comment in Securities Exchange Act Release No. 26346 (December 7, 1988), 53 FR 50146. No comments were received on the proposed rule change.

The purpose of the proposed rule change is to make the size of the unit of trading in the French franc option contract comparable to the dollar value of other foreign currency option contracts traded on the Exchange.[3] Currently, the dollar value of the French franc option contract is substantially smaller than other foreign currency option contracts traded on the PHLX.[4] Additionally, the Exchange proposes to modify the minimum fractional change for dealing on the Exchange in French franc option contracts from $.00005 to $.00002. This proposed change, along with the doubling of French franc option size, would decrease the minimum premium change from the equivalent of $6.25 per tick to $5.00 per tick which is more comparable to transactions in over-the-counter French franc currency options.

The Commission finds that the proposed rule change is consistent with the requirements of the Act and the rules and regulations thereunder applicable to national securities exchange, and, in particular, the requirements of section 6 [5] and the rules and regulations thereunder. Specifically, the Commission finds that the proposed rule change is consistent with section 6(5)(5) of the Act because it is designed to facilitate transactions in French franc foreign currency options contracts by allowing the Exchange to trade options on the French franc with a dollar range of contract comparable with other foreign currency option contracts and with fractional transaction changes comparable with off-exchange French franc options. The proposed rule change will thereby maintain the liquidity of the primary and derivative markets for the French franc by facilitating arbitrage, spread and other hedging opportunities between foreign currency options and inter-bank markets. Although increasing the unit of trading on French franc options will increase the maximum position size that can be accumulated in this option, this position size is commensurate with the maximum allowable position sizes in other foreign currency options.

It therefore is ordered, pursuant to section 19(b)(2) of the Act,[6] that the proposed rule change is approved.

For the Commission, by the Division of Market Regulation, pursuant to delegated authority.[7]

Dated: January 19, 1989.

Jonathan G. Katz,

Secretary.

[FR Doc. 89-2096 Filed 1-27-89; 8:45 am]

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[1] 15 U.S.C. 78s(b)(1) (1982).

[2] 17 CFR 240. 19b-4 (1988).

[3] The PHLX proposes to initiate trading and open French franc foreign currency options series respecting units of trading of 250,000 French francs in puts and calls with both American and European style expirations commencing on February 13, 1989. In order to prevent investor confusion the PHLX proposes not to continue to add French franc foreign currency options contracts series with units of trading of 125,000 francs after the February 1989 expiration. The PHLX proposes to continue to trade those open and outstanding French franc options series with units of trading of 125,000 francs until their expiration in December, 1989.

[4] For example, a French franc foreign currency option contract of 125,000 francs represents a U.S. dollar value at current spot of $20,511.00 whereas the comparable ECU contract dollar value, is $72,537.50 the Japanese yen contract dollar value is $49,862.50 the Canadian dollar contract is $40,705.00 and the Australian dollar contract is $41,055.00.

[5] 15 U.S.C. 78f (1982).

[6] 15 U.S.C. 78s(b)(2) (1982).

[7] 17 CFR 200.30-3(a)(12) (1986).

[Release No. IC-16767/812-7076]

Alger American Fund; Application

January 23, 1989.

AGENCY: Securities and Exchange Commission (the "Commission").

ACTION: Notice of Application for Exemption under the Investment Company Act of 1940 (the "1940 Act").

Applicants: The Alger American Fund (the "Fund") and certain life insurance companies and their variable life insurance separate accounts investing in the Fund (collectively, "Applicants").

Relevant 1940 Act Sections: Exemption requested pursuant to section 6(c) of the 1940 Act from sections 9(a), 13(a), 15(a) and 15(b) of the 1940 Act and Rules 6e-2(b)(15) and 6e-3(T)(b)(15) thereunder.

Summary of Application: Applicants seek an order to the extent necessary to permit shares of the Fund to be sold to and held by variable annuity and variable life insurance separate accounts of both affiliated and unaffiliated life insurance companies.

Filing Date: The application was filed July 20, 1988 and was amended on October 26, 1988 and January 10, 1989.

Hearing or Notification of Hearing: If no hearing is ordered, the application will be granted. Any interested person may request a hearing on the application or ask to be notified if a hearing is ordered. Any requests must be received by the Commission by 5:30 p.m. on February 13, 1989. Request a hearing in writing, giving the nature of your interest, the reason for the request, and the issues you contest. Serve the Applicants with the request, either personally or by mail, and also send it to the Secretary of the Commission, along with proof of service by affidavit or, for lawyers, by certificate. Request notification of the date of a hearing by writing to the Secretary of the Commission.

ADDRESSES: Secretary, Securities and Exchange Commission, 450 Fifth Street NW., Washington, DC 20549. The Alger American Fund, 75 Maiden Lane, New York, New York 10038.

FOR FURTHER INFORMATION CONTACT: Cindy J. Rose, Financial Analyst (202) 272-2058, or Clifford Kirsch, Special Counsel (202) 272-2061, (Division of Investment Management).

SUPPLEMENTARY INFORMATION: Following is a summary of the application; the complete application is available for a fee from either the Commission's Public Reference Branch in person or the Commission's commercial copier (800) 231-3282 (in Maryland (301) 253-4300).

Applicants' Representations

1. The Fund, an open-end, diversified, management investment company organized as a Massachusetts business trust, consists of four separate portfolios. The Fund has agreed to offer and sell its shares to the separate accounts of Skandia Life America Corporation in connection with the issuance of variable annuity contracts.

2. The Fund intends to offer its shares to registered separate accounts of other insurance companies ("participating

insurance companies"), which may be affiliated or unaffiliated, issuing variable annuity contracts or variable life insurance contracts.

3. The application states that Rules 6e-2 and 6e-3(T) under the 1940 Act provide partial exemptions from sections 9(a), 13(a), 15(a) and 15(b) of the 1940 Act with respect to certain variable life insurance contracts. However, Rule 6e-2(b)(15) precludes mixed and shared funding and Rule 6e-3(T)(b)(15) precludes shared funding. The application states that "mixed funding" means that one management investment company funds both variable annuity and variable life insurance separate accounts. "Shared funding" means that one management investment company funds the separate accounts of unaffiliated life insurance companies. Applicants propose that the relief granted by Rules 6e-2(b)(15) and 6e-3(T)(b)(15) from sections 9(a), 13(a), 15(a) and 15(b) of the 1940 Act be extended to a class of life insurance companies and their separate accounts offering variable life insurance contracts to the extent necessary to permit shares of the Fund to be sold in connection with both mixed and shared funding, subject to the conditions set forth in the application and summarized below.

4. Applicants state that Rules 6e-2(b)(15) and 6e-3(T)(b)(15) recognize that it is unnecessary to apply the prohibitions of section 9(a) to the potentially large number of individuals wo may be employed by an insurance company where those individuals have no connection with the portfolio investment company funding the separate account. This rationale would seem to be equally applicable where the portfolio investment company engages in mixed and shared funding. Applicants submit that denying the availability of these exemptions in the context of mixed and shared funding would serve no regulatory purpose.

5. To the extent the Commission continues to interpret the 1940 Act to require pass-through voting privileges, participating insurance companies will vote shares of the Fund held in their separate accounts for which no timely voting instructions from contract holders are received, as well as shares they own, in the same proportion as those shares for which voting instructions are received. Applicants state that Rules 6e-2 and 6e-3(T) provide an exemption from this pass-through voting requirement in limited situations. The Commission recognized the necessity of the exemption from the pass-through voting requirements "to assure the solvency of the life insurer and the performance of its contractual obligations by enabling an insurance regulatory authority or the life insurer to act when certain proposals reasonably could be expected to increase the risks undertaken by the life insurer." These considerations are no less important or necessary when a participating insurance company funds its separate accounts through a management investment company which engages in mixes and shared funding. The application states that shared or mixed funding in no way compromises the goals of insurance regulatory authorities or the Commission.

6. The application states that mixed and shared funding may encourage competition, product variation and lower charges for the benefit of the public at large. It will also benefit contract holders by eliminating the cost of establishing and administering separate portfolio investment companies.

7. The Fund's portfolios will be managed in pursuit of their stated objectives and consistent with their policies; the Fund's portfolios will not be managed to favor or disfavor a particular type of variable annuity or variable life insurance contract or participating life insurance company.

Applicants Conditions

If the requested order is granted, Applicants agree to the following conditions:

1. A majority of the Fund's Board of Trustees will consist of persons who are not "interested persons" of the Fund, as defined by section 2(a)(19) of the 1940 Act, except that if this condition is not met by reason of the death, disqualification, or bona fide resignation of any Trustee, then the operation of this condition shall be suspended (a) for a period of 45 days if the vacancy or vacancies may be filled by the Fund's Board; (b) for a period of 60 days if a vote of shareholders is required to fill the vacancy or vacancies; or (c) for such longer period as the Commission may prescribe by Order upon application.

2. The Fund's Board of Trustees will monitor events in order to identify the existence of any material irreconcilable conflict which may arise between the interests of the owners of all separate accounts investing in the Fund and to determine what action, if any, should be taken in response to such conflicts.

3. Participating insurance companies and the Fund's investment manager shall report any potential or existing conflicts to the Fund's Board of Trustees. Participating insurance companies and the Fund's investment manager will be responsible for assisting the Fund's Board in carrying out its responsibilities under these conditions by providing the Board will all information reasonably necessary for the Board to consider any issues raised. This includes, but is not limited to, an obligation by each participating insurance company to inform the Board whenever voting instructions of contract holders are disregarded and on all other matters referred to in this application as conditions. The responsibility to report such information and conflicts and to assist the Fund's Board of Trustees will be a contractual obligation of all participating insurance companies under their agreements governing participation in the Fund.

4. When it is determined by a majority of the Fund's Board of Trustees, or a majority of its disinterested members that a material irreconcilable conflict exists, the relevant participating insurance companies shall, at their expense and to the extent reasonably practicable (as determined by a majority of the disinterested members of the Board), take whatever steps are necessary to eliminate the irreconcilable material conflict, including: (1) Withdrawing the assets allocable to some or all of the separate accounts from the Fund or any portfolio and reinvesting such assets in a different investment medium, which may include another portfolio of the Fund, or submitting the question whether such segregation should be implemented to a vote of all affected contract holders and, as appropriate, segregating the assets of any appropriate group (i.e., annuity contract holders or life insurance contract holders of one or more participating insurance companies) that vote in favor of such segregation, or offering to the affected contract holders the option of making such a change; and (2) establishing a new registered management investment company or managed separate account. If a material irreconcilable conflict arises because of a participating insurance company's decision to disregard contract holders voting instructions and that decision represents a minority position or would preclude a majority vote, the participating insurance company may be required, at the Fund's election, to withdraw its separate account's investment in the Fund. The responsibility to take remedial action in the event of a determination by the Fund's Board of the existence of a material irreconcilable conflict, and to bear the cost of such remedial action, will be a contractual obligation of all participating insurance companies under their agreements governing participation

in the Fund and this responsibility will be carried out with a view only to the interest of contract holders. A majority of the disinterested members of the Fund's Board of Trustees shall determine whether any proposed action adequately remedies any material irreconcilable conflict, but in no event will the Fund be required to establish a new funding medium for any variable annuity or variable life insurance contract. No insurer will be required to establish a new funding medium for any variable annuity or variable life insurance contract if an offer to do so has been declined by the vote of a majority of contract holders adversely affected by the irreconcilable material conflict. No penalty will be imposed by the Fund on any participating insurance company's separate account for withdrawing assets from the Fund (or any portfolio of the Fund) in the event of a material irreconcilable conflict.

5. The determination by the Fund's Board of Trustees of the existence of an irreconcilable material conflict and its implications shall be promptly made known in writing to all participating insurance companies.

6. The participating insurance companies or the Fund's investment manager shall at least annually submit to the Fund's Board of Trustees such reports, materials or data as the Trustees may reasonably request so that the Trustees of the Fund may fully carry out the obligations imposed upon them by the conditions contained in this application and said reports, materials and data shall be submitted more frequently if deemed appropriate by the Board of Trustees. The obligations of the participating insurance companies to provide these reports, materials and data to the Fund's Board of Trustees when it so reasonably requests, shall be a contractual obligation of all participating insurance companies under their agreement governing participation in the Fund.

7. All reports received by the Fund's Board of Trustees with respect to potential or existing conflicts, and all Board action with regard to its determination of the existence of a conflict, notification of participating insurance companies of the existance of a conflict, and determination of whether any proposed action adequately remedies a conflict, will be properly recorded in the minutes of the meetings of the Fund's Board of Trustees or other appropriate records, and such minutes or other records will be made available to the Commission upon request.

8. Participating insurance companies will provide pass-through voting privileges to all contract holders to the extent that the Commission continues to interpret the 1940 Act to require pass-through voting. Each participating insurance company will vote shares of the Fund held in its separate accounts for which no timely voting instructions from contract holders are received, as well as shares its owns, in the same proportion as those shares for which voting instructions are received. Participating insurance companies shall be responsible for assuring that each of their separate accounts investing in the Fund calculates voting privileges in a manner consistent with other variable annuity or variable life insurance separate accounts. The obligation to vote the Fund's shares and to calculate voting privileges as provided in the application shall be a contractual obligation of all participating insurance companies under their agreements governing participation in the Fund.

9. The Fund shall disclose in its prospectus that (1) the Fund is intended to be a funding vehicle for all types of variable annuity and variable life insurance contracts offered by various insurance companies, (2) material irreconcilable conflicts of interest may possibly arise, and (3) the Fund's Board of Trustees will monitor events in order to identify the existence of any material irreconcilable conflicts and determine what action, if any, should be taken in response to such conflicts. The Fund will notify all participating insurance companies that prospectus disclosure regarding the potential risks of mixed and shared funding may be appropriate.

10. If and to the extent Rule 6e–2 or 6e–3(T) is amended, or Rule 6e–3 is adopted, to provide exemptive relief from any provision of the 1940 Act or the rules promulgated under the 1940 Act with respect to mixed or shared funding on terms and conditions materially different from any exemptions granted in the Order requested in this application, then the Applicants shall take such steps as may be necessary to comply with Rule 6e–2 or 6e–3(T), as amended, or Rule 6e–3, as adopted, to the extent such rules are applicable.

11. The Fund will comply with all provisions of the 1940 Act requiring voting by shareholders, and in particular the Fund will comply with section 16(c) of the 1940 Act (although the Fund is not one of the trusts described in section 16(c) of the 1940 Act) as well as with sections 16(a) and, if and when applicable, 16(b) as undertaken by the Fund pursuant to its registration statement (File No. 33–21722). Further, the Fund will act in accordance with the Commission's interpretation of the requirements of section 16(a) with respect to periodic elections of directors and with whatever rules the Commission may promulgate with respect thereto.

For the Commission, by the Division of Investment Management, pursuant to delegated authority.

Jonathan G. Katz,

Secretary.

[FR Doc. 89–2093 Filed 1–27–89; 8:45 am]

BILLING CODE 8010–01–M

[Release No. IC–16774; File No. 812–7024]

Prospect High Yield Mezzanine Fund, Inc., et al.; Application

January 24, 1989.

AGENCY: Securities and Exchange Commission ("Commission").

ACTION: Notice of Application for an Order under the Investment Company Act of 1940 ("1940 Act").

Applicants: Prospect High Yield Mezzanine Fund, Inc. ("Company") and Prospect Management Company, Inc. ("Investment Adviser").

Relevant 1940 Act Sections: Order requested (i) pursuant to sections 6(c), 57(a)(4), 57(c) and 57(i) and Rule 17d–1 permitting certain joint transactions; and (ii) pursuant to sections 6(c), 57(a)(4) and 57(i) and Rule 17d–1 permitting the acquisition of certain interim investments.

Summary of Application: Applicants request an order to permit the purchase of securites by the Company in certain joint transactions in which the Investment Adviser or an affiliate thereof is a participant, and to permit the Company to acquire one or more initial, interim investments from the Investment Adviser or an affiliate thereof.

Filing Dates: The application was filed on April 29, 1988, and amended on December 29, 1988, and January 19, 1989.

Hearing or Notification of Hearing: If no hearing is ordered, the application will be granted. Any interested person may request a hearing on this application, or ask to be notified if a hearing is ordered. Any requests must be received by the Commission by 5:30 p.m. on February 21, 1989. Request a hearing in writing, giving the nature of your interest, the reason for the request, and the issues you contest. Serve the Applicants with the request, either personally or by mail, and also send it to the Secretary of the Commission, along with proof of service by affidavit, or, in the case of an attorney-at-law, by certificate. Request notification of the date of a hearing by writing to the Secretary of the Commission.

ADDRESSES: Secretary of the Commission, 450 5th Street NW., Washington, DC 20549; Applicants, 667 Madison Avenue, New York, New York 10021.

FOR FURTHER INFORMATION CONTACT: Thomas C. Mira, Staff Attorney (202) 272–3047, or Brion R. Thompson, Branch Chief (202) 272–3016 (Office of Investment Company Regulation).

SUPPLEMENTARY INFORMATION: Following is a summary of the application; the complete application is available for a fee from either the Commission's Public Reference Branch in person or the Commission's commercial copier (800) 231–3282 (in Maryland (301) 258–4300).

Applicants' Representations

1. The Company, a newly-formed Maryland corporation, intends to issue publicly traded securities and to apply to list its common stock on the New York Stock Exchange ("NYSE"). The Company will elect to be regulated as a business development company pursuant to section 54 of the 1940 Act and, thus, will be subject to sections 55 through 65 of the 1940 Act.

2. The Company has been designed primarily to provide an opportunity for individuals to participate in "mezzanine" level debt and preferred stock and related equity securities and common stock investments issued by "eligible portfolio companies" (as defined in section 2(a)(46) of the 1940 Act) in connection with leveraged buy-outs and other corporate reorganizations. Applicants believe these investments, which are not generally available to individuals, provide an attractive investment when pooled in an investment vehicle that offers professional management.

3. The Company's investment objective will be to provide a high current return and an opportunity for significant capital appreciation through investment in mezzanine debt and other securities. Investments will be primarily in preferred stock, subordinated debt (including the mezzanine portion of traditional leveraged acquisitions), private placements of debt with equity components, partial buy-outs, convertible debt, senior debt and other forms of mezzanine financing with equity participations in the forms of straight equity, options, warrants and other equity securities ("Mezzanine Investments"). A limited portion of the Company's investments may consist of "bridge investments" with a term of twelve months or less which are expected to facilitate or lead to the consummation of Mezzanine Investments. The Company does not intend to restrict either its Temporary Investments (defined below) or Mezzanine Investments issued in connection with acquisitions to those acquisitions approved by the board of directors of the target company.

4. The Company intends to invest 70% of its total assets in Mezzanine Investments in companies ("Managed Companies") in which Prospect Affiliates (defined below) have a "meaningful equity investment" (as contemplated by the Company's investment guidelines, which are set forth fully in the application) and to which the Company will make available "significant managerial assistance" (as defined in section 2(a)(47) of the 1940 Act). The term "Prospect Affiliates" includes Prospect Group Inc., the Investment Adviser and any other affiliated person of the Investment Adviser. The Company may invest up to 30% of its total assets in Mezzanine Investments in companies ("Non-Managed Companies") in which Prospect Affiliates will not own more than 25% of the equity securities, of which the Prospect Affiliates will not exercise controlling influence over the management or policies, and to which the Company may, but will not be required to, make available the type of managerial assistance referred to in section 2(a)(47)(A) of the 1940 Act. In any event, of this 30%, the Company will at all times undertake to invest 15% of its assets in Non-Managed Companies in which Prospect Affiliates do not own any securities. Investments in Managed Companies and Non-Managed Companies will generally have the characteristics decribed in paragraphs (1) through (3) of section 55(a) of the 1940 Act. The Mezzanine Investments in Non-Managed Companies will be made as soon as they are identified but may be acquired either before or after making investments in Managed Companies.

5. In addition, the Company may invest 15% of its total assets in high yield securities and, pending the initial selection by the Investment Adviser of suitable Mezzanine Investments, up to 100% of its total assets in a combination of high yield securities and other securities (collectively, "Temporary Investments") in compliance with section 55 of the 1940 Act. Temporary Investments may also be held pending reinvestment of the proceeds from sales or other dispositions of Mezzanine Investments in other suitable Mezzanine Investments. Although up to 100% of the Company's total assets from time to time may be invested in Temporary Investments, at least 85% of these assets will always be available to make Mezzanine Investments. Neither the Investment Adviser nor the Sub-Adviser (defined below) will co-invest with the Company or have joint participations in the companies in which Temporary Investments are made. Thus, Applicants acknowledge that the requested order will not extend to the Temporary Investments.

6. The Company has filed a registration statement under the Securities Act of 1933 with respect to an offering of 11.5 million shares of common stock. The ultimate size of the offering will be determined prior to effectiveness of the Company's registration. The minimum investment will be 500 shares (approximately $5,000), except that the minimum investment for individual retirement accounts will be 200 shares.

7. The board of directors of the Company will consist of at least five directors, a majority of whom will not be "interested persons" within the meaning of the 1940 Act ("Independent Directors"). It is presently contemplated that the board will include five Independent Directors and three affiliates of the Investment Adviser ("Interested Directors"). Interested Directors will not participate in any way in approving Mezzanine Investments by the Company.

8. The Investment Adviser is a newly organized corporation wholly-owned and controlled by The Prospect Group, Inc. ("Prospect"). Prospect is primarily engaged in acquiring controlling or significant equity interests in small and medium-sized companies and in operating such companies. The Investment Adviser has applied for registration under the investment Advisers Act of 1940 ("Advisers Act"). The Investment Adviser will be responsible for selection of all Mezzanine Investments to be made by the company and will perform other functions normally performed by an investment adviser to a business development company. The Investment Adviser will receive a monthly fee at an annual rate not to exceed 1.50% of the average monthly net assets of the company. The Investment Adviser will not receive a performance based fee.

9. Putnam Management Company, which is a registered investment adviser under the Advisers Act, will act as Sub-Adviser to the Company pursuant to a sub-advisory agreement between the Investment Adviser and the Sub-Adviser. The Sub-Adviser will serve for the limited purpose of identifying, managing and liquidating Temporary Investments for the company, including

determination of whether market conditions warrant a temporary "defensive" strategy, pending investments in Mezzanine Investments. At no additional cost to the Company, the Investment Adviser will pay the Sub-Adviser a fee based on the percentage of net assets of the Company invested in Temporary Investments.

10. Since the Company will apply to list its shares on the NYSE, the Company will comply with the various requirements of the NYSE for listed companies. Because state securities laws recognize the standards imposed by the NYSE as conditions of listing, listing on the NYSE will relieve the Company of any requirement to impose suitability standards. Applicants undertake to disclose in the offering prospectus risk factors associated with investment in the Company's shares and the fact that the investment may not be "suitable" for investors who do not meet certain minimum net worth and income tests. In addition, to assure that later purchasers are apprised of the risks and suitability concerns, the Company will include in its annual "risk statements" (to be issued pursuant to section 64 of the 1940 Act) a statement that investments in the Company may not be suitable for investors not meeting the minimum tests. The Company will also issue quarterly reports to shareholders that will enumerate risk factors and reiterate that investment in the Company's shares is not suitable for certain investors.

11. The company will retain outside legal counsel for the Independent Directors to assist them in exercising their fiduciary duties and independent investment bankers ("Investment Bankers") to assist the Independent Directors in evaluating the continued appropriateness of, and compliance with, the Company's investment guidelines ("Guidelines"). To ensure that the proposed Investment Bankers are independent, no Investment Banker will be an "affiliate person" of the Company, any Prospect Affiliate or any company in which the Company holds Mezzanine Investments ("Portfolio Company") or an "affiliated person" of such "affiliated person", within the meaning of the 1940 Act, and no Investment Banker will have had, at any time since the beginning of the last two fiscal years, a material business or professional relationship with the Company (other than as consultant to the Independent Directors), other Prospect Affiliates or any Portfolio Company. For these purposes, a material business or professional relationship will be deemed not to exist so long as the investment banking fees received by any Investment Banker from the Company, Prospect Affiliates or any Portfolio Companies during the two most recent fiscal years (other than fees to be paid in connection with a review of the Guidelines and related transactions) represent, in the aggregate, (i) less than 10% of the total amount of investment banking fees paid or incurred by the Company and Prospect Affiliates during the two year period and (ii) no more than 3% (with respect to an entity) or 1% (with respect to an individual), as the case may be, of the total amount of investment banking fees earned by such Investment Banker during the same period.

12. Investment Bankers will assist the Independent Directors in four principal areas. First, while the Independent Directors will consider quarterly the continuing appropriateness of the Guidelines, at least annually, Investment Bankers will assist the Independent Directors in determining whether use of the Guidelines continues to be in the best interest of the Company and its shareholders and does not involve overreaching on the part of any party concerned. It is anticipated that in providing this assistance, Investment Bankers will discuss with the Independent Directors similar mezzanine-type transactions not involving Prospect or any of its affiliates. Second, with respect to any acquisition which the Investment Adviser certifies as meeting the Guidelines, and which would represent more than 10% of the value of the company's total assets, the Independent Directors will consult with Investment Bankers before the acquisition is effected. In these cases, the Company will not make the proposed acquisition unless the Independent Directors, with assistance of Investment Bankers, determine that the investment meets the applicable Guidelines. Third, if any proposed acquisition (regardless of size) does not meet the Guidelines, Investment Bankers will assist the Independent Directors in determining whether the terms of the transaction (including the consideration to be paid) are reasonable and fair to the shareholders of the Company, whether they involve overreaching on the part of any person concerned, and whether the proposed transaction is consistent with the interests of the shareholders and with the policy of the Company as recited in its registration statement and reports filed under the federal securities laws. Finally, at least annually, the Independent Directors will review with Investment Bankers each transaction completed since the last such review, other than those approved prior to acquisition as described above, and Investment Bankers will assist the Independent Directors in determining whether these transactions have met the Guidelines, as certified by the Investment Adviser.

13. Applicants request an order pursuant to sections 6(c), 57(a)(4) and 57(i) of the 1940 Act and Rule 17d–1 thereunder, permitting the purchase of securities by the Company in joint transactions in which a Prospect Affiliate is a participant and which would otherwise be prohibited under section 57(a)(4) of the 1940 Act and Rule 17d–1. The Guidelines have been established for the Company's Mezzanine Investments subject to approval by the Independent Directors. These Guidelines, which are based on criteria utilized for institutional mezzanine funds, will inform prospective investors of the parameters for the Company's investments, and, the Applicants believe, will limit potential conflicts of interest (as with institutional funds which co-invest with their organizers) by delineating specific categories of eligible investments. If, over time, it is determined appropriate to make changes in the Guidelines, as a result of changes in the structure of Mezzanine Investments or otherwise, any such changes would require the approval of a majority of the Independent Directors. The Applicants undertake not to change the Guidelines until an amendment to this order is obtained from the Commission.

14. Before the Company makes an investment a majority of the Independent Directors must determine that a Mezzanine Investment meets the applicable Guidelines. For proposed Mezzanine Investments that do not meet the Guidelines, determinations as to several factors must be made by the Independent Directors before any such investment is made.

15. Co-investments by the Company and a Prospect Affiliate will be subject to the following terms and conditions:

Conditions

(i) Each Mezzanine Investment made by the Company will have to meet, in the determination of a majority of the Independent Directors, as described below, the Guidelines for Mezzanine Investments or be approved by a majority of the Independent Directors;

(ii) Each Mezzanine Investment that is structured by a Prospect Affiliate (as well as transactions involving Non-Managed Companies in which both the Company and a Prospect Affiliate

invest) and approved for investment by the Company, except for certain *de minimis* investments of less than $7.5 million which are structured by a Prospect Affiliate, would be brought to the attention of the Independent Directors for review, subject to condition (iv) below. If the Independent Directors determine that the investment meets the applicable Guidelines (with the assistance of Investment Bankers as discussed above for Guideline investments that represent more than 10% of the Company's total assets), the investment would be eligible, subject to diversification requirements under applicable tax law, for investment by the Company, and the investment will be acquired by the Company to the extent that the Company has available funds sufficient to make the acquisition. If there are presented to the Independent Directors more investments than the Company has available funds to acquire, the Independent Directors will have to determine, with the advice of the Investment Adviser, the order of priority of investments. If a proposed investment does not meet the Guidelines, the Independent Directors will have to determine that the investment is appropriate for the Company in light of its objective and does not involve overreaching of the Company and then determine whether to acquire the investment for the Company;

(iii) Prior to committing to a particular investment that does not meet the Guidelines, the Independent Directors would be required to determine (with the assistance of Investment Bankers as discussed above) that (a) the terms of the transaction (including the consideration to be paid) are reasonable and fair to the shareholders of the Company (and do not involve overeaching on the part of any person concerned) and (b) the proposed transaction is consistent with the interests of the shareholders of the Company and is consistent with the policy of the Company as recited in its registration statement and reports filed under the federal securities laws;

(iv) The Interested Directors in their capacity as directors will not (a) participate in the deliberations or approval of any investment by the Company or (b) receive and comment on information with respect to any potential investments;

(v) Neither the Sub-Adviser nor any of its affiliates will participate in a transaction in which the Company invests unless the participation is permitted by the 1940 Act or any separate exemption obtained thereunder;

(vi) To the extent a Prospect Affiliate purchases Mezzanine Investments to be acquired by the Company, the terms of purchase (including terms as to purchase price, settlement date, registration rights (if any) and other rights provided to the purchasers of the Mezzanine Investments) will have to be on terms no more favorable than those available to the Company;

(vii) If a Prospect Affiliate elects to sell a security that is also held by the Company, notice of the proposed sale will be given to the Directors of the Company at the earliest practicable time, and the Company will be given the opportunity to participate in the sale on a proportionate basis. The Company will participate in the sale if the Independent Directors determine that it is in the best interests of the Company; provided, however, that the Interested Directors in their capacity as directors of the Company will not participate in these deliberations. The Company will maintain in its records the basis of any decision whether to participate in a sale;

(viii) The Independent Directors will consider on a quarterly basis the continuing appropriateness of the Guidelines. In this regard, the Independent Driectors will consider whether use of the Guidelines continues to be in the best interests of the Company and its shareholders and does not involve overreaching affecting the Company or its shareholders on the part of any party concerned. At least annually, the Independent Directors will consult with Investment Bankers who will assist the Independent Directors in evaluating the continued appropriateness of the Guidelines;

(ix) At least annually, the Independent Directors will review, with the Investment Bankers, all investments which the Investment Adviser had certified as meeting the Guidelines in order to determine whether the investments in fact met the Guidelines (except investments regarding which, in accordance with condition (ii) above, the Independent Directors, with the assistance of Investment Bankers, have previously made such a determination); and

(x) The Independent Director will maintain the records required by section 57(f)(3) of the 1940 Act and will comply with section 57(h), and each of the Applicants will otherwise maintain all records required by the 1940 Act.

16. Applicants further request an order under sections 6(c), 57(a)(4), 57(c) and 57(i) of the 1940 Act and Rule 17d–1 thereunder, permitting the Company to engage in the acquisition of certain investments which would otherwise be prohibited by sections 57(a)(1) and 57(a)(4) of the 1940 Act and Rule 17d–1. It is contemplated that a substantial period of time will elapse between the filing of the application and consummation of the public offering of the shares, and the time when the Company receives the proceeds from their sale. During this period, it is expected that investment opportunities suitable for the Company may come to the attention of the Investment Adviser. The Company will not have the funds to make these investments during this period and these investment opportunities could be lost to the Company if not then acquired. Therefore, it is proposed that a Prospect Affiliate acquire these investments in the first instance with a view to transferring them to the Company, subject to the various conditions to which Applicants have consented.

17. Any investment acquired by the Company pursuant to the terms of the exemption requested herein will (i) be a Mezzanine Investment which has been determined by the Independent Directors to meet the Guidelines or (ii) have been approved in advance by a majority of the Independent Directors. The Prospect Affiliate will hold any such investment on behalf of the Company until the public sale of the shares, after which the Company, subject to the approval described above, may acquire the investments from the Prospect Affiliate at the lesser of (i) the value of the investment at the time it is acquired by the Company and (ii) the cost to the Prospect Affiliate of purchasing and carrying the investment (reduced by the amount of any dividends or interest received by the Prospect Affiliate with respect to the investment). Carrying costs will consist of interest charges computed at the lower of (i) the prime commercial lending rate charged by Morgan Guaranty Trust Company of New York during the period from the date the Prospect Affiliate acquires the investment until the date the Company acquires the investment and (ii) the effective cost of borrowings by the Prospect Affiliate during the period. The effective cost of borrowings by the Prospect Affiliate is its actual "average cost of funds", which it calculates on a monthly basis by dividing its consolidated financing expenses by the total cost of borrowings during the period.

18. The Company may acquire any of these investments within 90 days after the closing of its public offering. The

market value of the investments will be determined by the Independent Directors. The Company will not be obligated to acquire any investment if the acquisition is not approved by the Independent Directors or if the public offering of the shares is not consummated. In determining whether to approve any such investment for the Company, the Independent Directors will consider the terms of the transaction under the standards set forth in conditions (i) through (x) with respect to co-investments, and the Independent Directors will further consider the fact that the acquisition of the investment may cause the Company to incur carrying costs. If the Company does not acquire the investments, the Prospect Affiliate will retain the investments for its own account. If the acquisition of the investments is approved by the Independent Directors, the Prospect Affiliate must transfer each Mezzanine Investment so acquired on behalf of the Company to the Company in its entirety following the sale of the shares to the public. Each investment and its costs will be disclosed in the Company's prospectus or a supplement thereto.

Applicants' Legal Conclusions

1. Applicants submit that the request for an order permitting the co-investments by the Company and any Prospect Affiliate is consistent with the provisions, policies and purposes of the 1940 Act, and that the participation of the Company will be on a basis no less advantageous than that of any other participant. In addition, Applicants submit that through an equity participation, representation on the board of directors and involvement in a variety of functions including strategic planning, the Company and the Investment Adviser and other Prospect Affiliates will be able to make available significant managerial assistance to the companies in which Applicants co-invest.

2. Applicants further submit that the statutory standards of sections 6(c), 57(a)(4), 57(c) and 57(i) and the standards of Rule 17d–1 are satisfied. A Prospect Affiliate will acquire investments suitable for the Company within its investment objective and policies, hold the investments for the Company during an interim period and then sell the investments to the Company at the lower of market value or cost (which may include carrying charges). Based on the nature of these investments, Applicants submit that the granting of the requested order will benefit the Company by permitting it to acquire investments it might otherwise not be able to acquire. Because the Prospect Affiliate will retain the investments for its own account if the acquisition is not approved by the Independent Directors or the public offering of the shares is not consummated, Applicants submit that there will be no incentive for overreaching or unfairness with respect to the Company and that the transactions are not potentially subject to the abuses sections 57(a)(1) and 57(a)(4) of the 1940 Act and Rule 17d–1 were designed to prevent. Moreover, any possibility for abuse will be ameliorated by disclosure of the proposed co-investments in the Company's prospectus. The Prospect Affiliate will acquire these investments for the benefit of the Company as, in effect, its nominee and will bear the risk of decline in value of these investments but not benefit from any increase in value between the time of investment and the purchase of the investment by the Company. Accordingly, Applicants believe it is appropriate for the Company to pay carrying costs on the terms set forth above.

If the requested order is granted, Applicants agree to the following additional conditions:

Conditions

(i) Any investments made by a Prospect Affiliate on behalf of the Company before the public offering of the shares is consummated and the Company has received the proceeds from the sale of the shares will be acquired on the terms described above.

(ii) The Applicants undertake that no changes will be made in the Guidelines or the conditions until any necessary amendment to the requested order is obtained from the Commission.

(iii) The Company undertakes to retain outside legal counsel for the Independent Directors to assist them in exercising their fiduciary duties and Investment Bankers to assist the Independent Directors from time to time (at least annually) in evaluating the continued appropriateness of, and compliance with, the Guidelines.

(iv) The Company represents that at least 15% of its assets will be invested in Non-Managed Companies in which the Prospect Affiliates do not own any securities.

(v) Applicants undertake to require in the initial public offering specified minimum investments and to disclose in the offering prospectus risk factors associated with investment in the shares and the fact that the investment may not be "suitable" for investors who do not meet minimum net worth and income tests.

(vi) The Company undertakes to include in its annual "risk statements" (to be issued pursuant to Section 64 of the 1940 Act) a statement that investments in the Company may not be suitable for investors not meeting the minimum tests. The Company will also issue quarterly reports to shareholders that will enumerate risk factors and reiterate that investment in the shares is not suitable for certain investors.

By the Commission.

Jonathan G. Katz,

Secretary.

[FR Doc. 89–2091 Filed 1–27–89; 8:45 am]

BILLING CODE 8010–01–M

[Release No. IC–16769; File No. 812–7169]

Prudential Insurance Co. of America et al.; Application

AGENCY: Securities and Exchange Commission ("SEC").

ACTION: Notice of filing application for an order under the Investment Company Act of 1940 ("1940 Act").

Applicants: The Prudential Insurance Company of America ("The Prudential"), The Prudential Individual Variable Contract Account ("Account"), and the Pruco Securities Corporation ("Prusec") (collectively "Applicants").

Relevant 1940 Act Sections: Exemption requested under section 6(c) of the Investment Company Act of 1940 ("1940 Act") from sections 2(a)(32), 22(c), 26(a)(2)(c), 27(c)(1), 27(c)(2), and 27(d) of the 1940 Act and Rule 22c–1 thereunder. Applicants seek an order to the extent necessary to permit the issuance of variable annuity contracts providing for a recapturable bonus equal to 1% of certain purchase payments and the deduction of a mortality and expense risk charge from the assets of the Account.

Filing Date: The application was filed November 8, 1988.

Hearing or Notification of Hearing: If no hearing is ordered, the application will be granted. Any interested person may request a hearing on this application, or ask to be notified if a hearing is ordered. Any requests must be received by the SEC by 5:30 p.m. on February 17, 1989. Request a hearing in writing, giving the nature of your interest, the reason for the request, and the issues you contest. Serve the Applicants with the request, either personally or by mail, and also send it to the Secretary of the SEC, along with proof of service by affidavit, or, for lawyers, by certificate. Request

notification of the date of a hearing by writing to the Secretary of the SEC.

ADDRESSES: Secretary, SEC, 450 Fifth Street NW., Washington, DC 20549. The Prudential and other Applicants, Prudential Plaza, Newark, NJ 07101, Attention: John P. Gualtieri, Jr.

FOR FURTHER INFORMATION CONTACT: Jeffrey M. Ulness, Attorney, at (202) 272–2026 or Clifford E. Kirsch, Special Counsel, at (202) 272–2061 (Division of Investment Management).

SUPPLEMENTARY INFORMATION: Following is a summary of the application; the complete application is available for a fee from either the SEC's Public Reference Branch in person or the SEC's commercial copier who may be contacted at (800) 231–3282 (in Maryland (301) 258–4300)).

Applicants' Representations

1. The Prudential, a mutual life insurance company, established the Account under New Jersey law on October 12, 1982, for the purpose of funding variable annuity contracts. The Account is registered under the Act as a unit investment trust. The Prudential intends to use the Account to fund a new variable annuity contract (the "Contract").

2. The Account currently has twelve subaccounts, nine of which are available for investment under this Contract. Each subaccount will invest in shares of a corresponding portfolio of The Prudential Series Fund, Inc. (the "Series Fund"). The Series Fund is a Maryland corporation registered under the Act as an open-end, diversified management investment company.

4. The Prudential imposes two administrative charges: (1) An annual maintenance charge of $30 which is assessed if an owner's Contract fund is less than $10,000 on a Contract anniversary or at the time of a full withdrawal; and (2) a daily administrative charge which is deducted from the assets of the subaccounts at an annual rate of 0.20%. These charges compensate The Prudential for expenses incurred in administering the Contracts. These expenses include the costs of issuing the Contract, maintaining necessary systems and records, and providing reports. The Prudential does not anticipate a profit from these charges. These charges may not be increased. Applicants represent that their deduction meets the standard of Rule 26a–1 under the Act.

5. The Prudential deducts a daily charge from the assets of the subaccounts at an annual rate of 1.00% for its assumption of certain mortality and expense risks under the contracts. Of this 1.00% charge, 0.70% is allocated to mortality risks. The mortality risks borne by the Prudential include: the obligation to make the monthly annuity payments for the life of the annuitant; the provision of a death benefit if the annuitant dies prior to the annuity date which may be greater than the value of the Contract; and the provision of annuity rates guaranteed in the Contracts. The remaining portion of this charge (0.30%) is allocated to the expense risk. The Prudential assumes the expense risk that the deduction of the administrative charges may prove insufficient to cover the actual costs of administering the Contracts.

6. The Prudential does not assess a sales charge for purchase payments made under the Contract if the owner does not withdraw those payments within 6 Contract years. If the owner surrenders all or withdraws part of a purchase payment under the Contract within the first 6 Contract years, The Prudential will reduce the amount payable to the owner by a contingent deferred sales charge equal to 7%¢ in the first 3 Contract years and declining by 1% each year for 3 years thereafter. After a purchase payment has remained in the Contract fund for 6 Contract years, no contingent deferred sales charge is assessed against the withdrawal of purchase payments in any contract year of an amount up to 10% of the owner's contract fund as of the date of the first withdrawal in that Contract year.

The Recapturable Bonus

7. The Prudential will, during the first 3 Contract years and in Contract years thereafter at The Prudential's discretion, add an additional amount, as a bonus, of 1% to every purchase payment made under the Contract. That additional amount will be allocated to the selected investment options in the same manner as the purchase payment. The Prudential reserves the right to limit its payment of such additional amounts to $1,000 under a particular Contract in each Contract year. The additional amount will not be subject to state or local premium taxes.

8. Applicants state that additional amounts paid by The Prudential would be recapturable by The Prudential as follows. If the Contract owner makes a withdrawal within the first 6 Contract years that consists in part of a withdrawal of purchase payments, as opposed to earnings, The Prudential will recapture the 1% additional amount it paid on the portion of the purchase payment or payments withdrawn. Investment earnings are deemed to be withdrawn before purchase payments. Purchase payments are deemed to be withdrawn on a first-in, first-out basis. Applicants state that unlike the deferred sales load applicable under the Contracts, which is not imposed on withdrawals of purchase payments up to 10%¢ of the Contract fund each year, any withdrawal of a purchase payment within the first 6 Contract years following the payment will result in recapture of the additional amount.

9. Applicants state that Contract owners do not have a vested interest in the principal amount of any additional amount until 6 Contract years from the date of payment have elapsed, and that until such time the additional amount belongs to The Prudential.

10. Applicants represent that the bonus provision involves none of the abuses to which sections 2(a)(32), 22(c), 26(a)(2)(c), 27(c)(1), 27(c)(2), and 27(d) of the 1940 Act and Rule 22c–1 thereunder, were directed. Applicants also state that the 1% additional amount provision will be attractive to and in the interest of investors as it will permit Contract owners to put 101% of their purchase payments to work for them in the selected investment options. Applicants further explain that the investment experience attributable to the bonus provision will always be retained by the Contract owner and the principal amounts of the bonus will also be retained if the purchase payment is not withdrawn for at least 6 Contract years.

The Mortality and Expense Risk Charge

11. The Prudential represents that the mortality and expense risk charge is a reasonable charge to compensate it for the assumption of mortality and expense risks.

12. The Prudential represents that the charge of 1.00% for mortality and expense risks is within the range of industry practice with respect to comparable annuity products. This representation is based upon The Prudential's analysis of publicly available information about similar industry products, taking into consideration such factors as current charge levels, the existence of charge levels guarantees, and guaranteed annuity rates. The Prudential will maintain at its executive office, available to the Commission, a memorandum setting forth in detail the products analyzed in the course of, and the methodology and results of, its comparative survey.

13. Applicants state that the contingent deferred sales charge may be insufficient to cover the expenses incurred in selling the Contracts. To the extent that the contingent deferred sales charge fails to cover distribution

expenses. The Prudential will pay these expenses from its general assets which may include proceeds from the mortality and expense risk charge. The Prudential has concluded that there is a reasonable likelihood that this proposed distribution financing arrangement will benefit the Account and the Contract owners. The basis for this conclusion is set forth in a memorandum which will be maintained by The Prudential at its executive office and will be available to the Commission.

15. The Prudential represents that the Account will only invest in open-end management investment companies which have undertaken to have a board of directors, a majority of whom are not interested in persons of the open-end management company, formulate and approve any plan pursuant to Rule 12b–1 under the Act to finance distribution expenses.

For the Commission, by the Division of Investment Management, under delegated authority.

Jonathan G. Katz,

Secretary.

January 23, 1989.

[FR Doc. 89–2089 Filed 1–27–89; 8:45 am]

BILLING CODE 8010–01–M

[Rel. No. IC–16771; 812–7105]

Prudential Mutual Fund Management, Inc. et al; Application

January 23, 1989.

AGENCY: Securities and Exchange Commission ("SEC").

ACTION: Notice of Application for Exemption under the Investment Company Act of 1940 ("Act").

Applicant: Prudential Mutual Fund Management, Inc. ("PMF"), Prudential Mutual Fund Distributors, Inc. ("PMFD") and Prudential-Bache Securities Inc. ("Prudential-Bache"), on behalf of the Prudential-Bache Mutual Funds (collectively, "Applicants").

Relevant 1940 Act Sections: Applicants request an order amending a prior order that previously granted exemptions pursuant to section 6(c) of the Act from the provisions of section 22(d) of the Act.

Summary of Application: The Applicants seek an order, pursuant to section 6(c) of the 1940 Act, amending an existing order of the SEC dated August 21, 1985, Investment Company Act Release No. 14687 ("Prior Order"). The proposed amendment would extend the exemptive relief granted by the Prior Order to Prudential-Bache to apply to PMF, PMFD and to any existing or future registered mutual fund for which Prudential-Bache or PMF serves as manager or administrator and for which Prudential-Bache or PMFD serves as distributor.

Filing Date: The application was filed on August 24, 1988.

Hearing or Notification of Hearing: If no hearing is ordered, the application will be granted. Any interested person may request a hearing on this application, or ask to be notified if a hearing is ordered. Any requests must be received by the SEC by 5:30 p.m., on February 16, 1989. Request a hearing in writing, giving the nature of your interest, the reason for the request, and the issues you contest. Serve the Applicant(s) with the request, either personally or by mail, and also send it to the Secretary of the SEC, along with proof of service by affidavit or, for lawyers, by certificate. Request notification of the date of a hearing by writing to the Secretary of the SEC.

ADDRESSES: Secretary, SEC, 450 5th Street, NW., Washington, DC 20549. Applicants, One Seaport Plaza, New York, New York 10292.

FOR FURTHER INFORMATION CONTACT: Cecilia C. Kalish, Staff Attorney (202) 272–3035 or Karen L. Skidmore, Branch Chief at (202) 272–3023 (Division of Investment Management, Office of Investment Company Regulation).

SUPPLEMENTARY INFORMATION: Following is a summary of the application; the complete application is available for a fee from either the SEC's Public Reference Branch in person or the SEC's commercial copier who can be contacted at (800) 231–3282 (in Maryland (301) 258–4300).

Applicant's Representations

1. Applicants state that the Prior Order provides exemptive relief from the provisions of section 22(d) of the Act to the extent necessary to permit the waiver of a contingent deferred sales charge ("CDSC") in connection with redemptions by the Bache Group, Inc. Voluntary Employee Retirement Savings Account Plan ("Plan"), and that the exemptive relief provided by the Prior Order extends to all existing and future registered open-end management investment companies (i) for which Prudential-Bache serves as manager or administrator, and (ii) for which Prudential-Bache serves as distributor.

2. Applicants request that the SEC issue an order amending the Prior Order to extend the exemptive relief provided to apply to PMF, PMFD and to any existing or future registered open-end management investment company (i) for which either Prudential-Bache or PMF serves as manager or administrator, and (ii) for which Prudential-Bache or PMFD serves as distributor (the "Prudential-Bache Mutual Funds").

3. Applicants represent that, since the Prior Order was granted, there has been an internal reorganization of Prudential-Bache and its affiliates pursuant to which (i) PMF has succeeded Prudential-Bache as the manager or administrator of certain Prudential-Bache Mutual Funds relying on the Prior Order, and (ii) PMFD has succeeded Prudential-Bache as the distributor for certain Prudential-Bache Mutual Funds relying on the Prior Order. Applicants further represent that the sole purpose of the present application is to amend the Prior Order to reflect the new management, administrative and distribution arrangements that have resulted from this reorganization.

Applicants' Condition

Applicants agree that all waivers of a CDSC in connection with redemptions by the Plan of shares of one of the Prudential-Bache Mutual Funds will continue to conform to all of the conditions imposed on such waivers by the Prior Order, including compliance with the provisions of Rule 22d–1 under the Act. Therefore, Applicants assert that the exemptions requested would be appropriate in the public interest and consistent with the protection of investors.

For the Commission, by the Division of Investment Management, pursuant to delegated authority.

Jonathan G. Katz,

Secretary.

[FR Doc. 89–2090 Filed 1–27–89; 8:45 am]

BILLING CODE 8010–01–M

[Rel. No. IC–16768; 812–7155]

WNC Housing Tax Credit Fund, L.P.; Application

January 23, 1989.

AGENCY: Securities and Exchange Commission ("SEC").

ACTION: Notice of Application for Exemption under the Investment Company Act of 1940 ("1940 Act").

Applicants: WNC Housing Tax Credit Fund, L.P., a California limited partnership (the "Partnership"), and its managing general partner, WNC Resources, Inc., a California corporation (the "Managing General Partner").

Relevant 1940 Act Sections: Exemption requested under section 6(c) of the 1940 Act from all provisions of the 1940 Act.

Summary of Application: The Partnership, formed to invest in other limited partnerships which will own and operate apartment complexes to be qualified for the low income housing tax credit under the Internal Revenue Code of 1986, and the Managing General Partner seek an order exempting the Partnership from all provisions of the 1940 Act in connection with the Partnership's proposed offering of units of limited partnership interest in the Partnership.

Filing Date: The application was filed on October 20, 1988, and an amendment to the application was filed on January 23, 1989.

Hearing or Notification of Hearing: If no hearing is ordered, the application will be granted. Any interested person may request a hearing on the application, or ask to be notified if a hearing is ordered. Any requests must be received by the SEC by 5:30 p.m., on February 17, 1989. Request a hearing in writing, giving the nature of your interest, the reason for the request, and the issues you contest. Serve the Applicants with the request, either personally or by mail, and also send it to the Secretary of the SEC, along with proof of service by affidavit or, for lawyers, by certificate. Request notification of the date of a hearing by writing to the Secretary of the SEC.

ADDRESSES: Secretary, SEC, 450 5th Street, NW., Washington, DC 20549. Applicants, c/o WNC Resources, Inc., 546 South Bay Front, Drawer GG, Newport Beach, California 92662.

FOR FURTHER INFORMATION CONTACT: H.R. Hallock, Jr., Special Counsel, at (202) 272–3030 (Division of Investment Management, Office of Investment Company Regulation).

SUPPLEMENTARY INFORMATION: Following is a summary of the application; the complete application is available for a fee from either the SEC's Public Reference Branch in person or the SEC's commercial copier who can be contacted at (800) 231–3282 (in Maryland (301) 258–4300).

Applicants' Representations

1. The Partnership was formed September 15, 1988, to invest in other limited partnerships ("Local Limited Partnerships"), which, in turn, will engage in the ownership and operation of apartment complexes, the ownership of which is expected to generate certain credits allowable under the Internal Revenue Code of 1986 for investments in low-income housing projects. The Partnership's objectives are to provide tax benefits in the form of tax credits which Qualified Investors, as defined in the Partnership's prospectus (the "Prospectus"), may use to offset their Federal income tax liability, to preserve and protect the Partnership's capital, to provide long-term capital appreciation through increases in the values of the apartment complexes and to provide cash distributions from sale or refinancing transactions.

2. On October 19, 1988, the Partnership filed a registration statement under the Securities Act of 1933, pursuant to which the Partnership intends to offer publicly 3,000 units of limited partnership interest ("Units") at $2,500 per Unit. Purchasers of Units will become limited partners ("Limited Partners") of the Partnership.

3. Although the Partnership's direct control over the management of each apartment complex will be limited, the Partnership's ownership of interests in Local Limited Partnerships shall, in an economic sense, be tantamount to direct ownership of the apartment complexes themselves. The Partnership will normally acquire at least a 90% interest in the profits, losses and tax credits of the Local Limited Partnerships. However, in certain cases, at the discretion of the Managing General Partner, the Partnership may acquire a lesser interest in a Local Limited Partnership. In such cases, the Partnership will normally acquire at least a 50% interest in the profits, losses and tax credits of the Local Limited Partnership.

4. The Partnership will be controlled by the Managing General Partner and Wilfred N. Cooper, its general partners (the "General Partners"), pursuant to the Partnership's partnership agreement (the "Partnership Agreement"). The Limited Partners, consistent with their limited liability status, will not be entitled to participate in the control of the business of the Partnership. Limited Partners owning a majority of the Units will have the right to amend the Partnership Agreement (subject to certain limitations), to remove any General Partner and elect a replacement therefor and to dissolve the Partnership. In addition, under the Partnership Agreement, each Limited Partner is entitled to review all books and records of the Partnership at any and all reasonable times.

5. All proceeds of the public offering of Units will initially be placed in an escrow account with American Interstate Bank ("Escrow Agent"). Pending release of offering proceeds to the Partnership, the Escrow Agent will deposit escrowed funds in accordance with instructions from the Managing General Partner in short-term United States Government securities, securities issued or guaranteed by the United States Government and certificates of deposit or time or demand deposits in commerical banks. Upon receipt of a prescribed minimum number of subscriptions, funds in escrow will be released to the Patnership and held in trust pending investment in Local Limited Partnerships.

Applicants' Legal Analysis

1. The exemption of the Partnership from all provisions of the 1940 Act is both necessary and appropriate in the public interest, because: (a) Investment in low and moderate income housing in accordance with the national policy expressed in Title IX of the Housing and Urban Development Act of 1968 is not economically suitable for private investors without the tax and organizational advantages of the limited partnership form; (b) the limited partnership form provides the only means of bringing private equity capital into such housing, particularly because public investors typically consider investment in low and moderate income housing programs as involving greater risk than real estate investment generally; and (c) the limited partnership form insulates each limited partner from personal liability and limits financial risk incurred by the limited partner to the amount he has agreed to invest in the program, while also allowing the limited partner to claim on his individual tax return his proportionate share of the credits, income and losses from the investment.

2. The Partnership will operate in accordance with the purposes and criteria set forth in Investment Company Act Release No. 8456 (August 9, 1974) ("Release No. 8456"). The final paragraph of Release No. 8456 contemplates that the exemptive power of the SEC under section 6(c) may be applied to two-tier partnerships which engage in the kind of activities in which the Partnership will engage, that is, "two-tier partnerships that invest in limited partnerships engaged in the development and building of housing for low and moderate income persons * * *" The release lists two conditions, designed for the protection of investors, which must be satisfied in order to qualify for such an exemption: (1) "interests in the issuer should be sold only to persons for whom investments in limited profit essentially tax-shelter, investments would not be unsuitable * * *"; and (2) "requirements for fair dealing by the general partner of the issuer with the limited partners of the issuer should be included in the basic

organizational documents of the company."

3. Any subscriptions for Units must be approved by the Managing General Partner, which approval shall be conditioned upon representations as to suitability to the investment for each subscriber. Such investor suitability standards provide, among other things, that investment in the Partnership is suitable only for an investor who either (1) has a net worth (exclusive of home, furnishings and automobiles) of at least $50,000 and an annual gross income of not less than $30,000 or (2) irrespective of annual income, has a net worth (exclusive of home, furnishings and automobiles) of at least $75,000, or is purchasing in a fiduciary capacity for a person or entity having such net worth and annual gross income as set forth in clause (1) for such net worth as set forth in clause (2). Transfer of Units will be permitted only if the transferee meets the same suitability standards as had been imposed upon the transferor Limited Partner.

4. The Partnership Agreement and Prospectus contain numerous provisions designed to insure fair dealing by the General Partners with the imited Partners. All compensation to be paid to the General Partners and their affiliates is specified in the Patnership Agreement and Prospectus and no compensation will be payable to the General Partners or any of their affiliates unless so specified. The fees and other forms of compensation that will be paid to the General Partners and their affiliates will not have been negotiated at arm's length; however, all such compensation is believed to be fair and on terms no less favorable to the Partnership than would be the case if such arrangements had been made with independent third parties. Further, the Partnership believes that such compensation meets all applicable guidelines necessary to permit the Units to be offered and sold in the State of California and in states which adhere to the guidelines comprising the statement of policy adopted by the North American Securities Administrators Association, Inc. applicable to real estate programs in the form of limited partnerships.

For the Commission, by the Division of Investment Management, under delegated authority.

Jonathan G. Katz,

Secretary.

[FR Doc. 89-2092 Filed 1-27-89; 8:45 am]

BILLING CODE 8010-01-M

SMALL BUSINESS ADMINISTRATION

National Small Business Development Center Advisory Board; Public Meeting

The National Small Business Development Center Advisory Board will hold a public meeting on Monday, March 20th and Tuesday, March 21st 1989, from 9:00 a.m. to 12:00 noon in the Administrator's Conference Room on the tenth floor, at the Small Business Administration, 1441 L Street NW., Washington, DC.

The purpose of the meeting is to discuss such matters as may be presented by Advisory Board Members, staff, of the U.S. Small Business Administration, or others present.

For futher information, write or call Hardy Patten, SBA, Room 317, U.S. Small Business Administration, 1441 L Street NW., Washington, DC 20416, telephone (202) 653-6315.

Jeannette Pauli,

Acting Director, Office of Advisory Councils.

[FR Doc. 89-2104 Filed 1-27-89; 8:45 am]

BILLING CODE 8025-01-M

[Application No. 02/02-0527]

Bishop Capital II, L.P.; Application for a Licensee To Operate as a Small Business Investment Company

Notice is hereby given of the filing of an applicaiton with the Small Business Administration (SBA) pursuant to § 107.102 of the Regulations governing small business investment companies (13 CFR 107.102 (1989)) by Bishop Capital II, L.P. (the Applicant), 58 Park Place, Newark, New Jersey 07102, for a license to operate as a limited partnership small business investment company (SBIC) under the provisions of the Small Business Investment Act of 1958, as amended (the Act) (15 U.S.C. 661 *et seq.*), and the Rules and Regulations promulgated thereunder.

The formation and licensing of a limited partnership SBIC is subject to the provisions of § 107.4 of the SBA Regulations.

The proposed general partner, manager and limited partners of the Applicant are as follows:

Name and address	Relationship	Ownership (percent)
ICN Associates, 58 Park Place, Newark, New Jersey 07102	General Partner/ Manager.	1
Charles J. Irish, 270 Henderson Street, Jersey City, New Jersey 07302.	General Partner of ICN Associates.	
Nic P. Neumann, 6 Mustang Terrace, Warren, New Jersey 07060.	General Partner of ICN Associates.	
Donald S. Chadwick, 3 River Oaks Drive, Rutherford, New Jersey 07070.	General Partner of ICN Associates.	

ICN Associates (ICN), the Applicant's general partner, is a general partnership organized under the laws of the State of New Jersey for the sole purpose of managing the Applicant. The general partners of ICN Associates, directly or indirectly, will invest not less than $200,000 in the Applicant.

At this time, no person, corporation, partnership, trust or other entity owns or proposes to own, directly or indirectly, ten percent or more of the Limited Partnership Units issued or to be issued by the Applicant. There will be no more than 35 beneficial owners of Limited Partnership Units at the completion of the initial financing.

The Applicant, a New Jersey limited partnership, will begin operations with $1.2 million (minimum) to $5.0 million (maximum) initial partnershiip capital, which will be raised by means of a private placement of limited partnership units, and will operate principally in the State of New Jersey. In addition, the general partner of the Applicant, ICN, will invest an amount equal to one percent of the total amount invested by the Applicant's limited partners.

Matters involved in SBA's consideration of the application include the general business reputation and character of the proposed general partner, manager, as well as the limited partners of the Applicant, and the probability of successful operation of the Applicant in accordance with the Act and Regulations.

Notice is further given that any person may, not later than 30 days from the date of publication of this Notice, submit written comments on the proposed SBIC to the Deputy Associate administrator for Investment, Small Business Administration, 1441 "L" Street NW., Washington, DC 20416.

A copy of this notice shall be published in a newspaper of general circulation in Newark, New Jersey.

(Catalog of Federal Domestic Assistance Program No. 59.011, Small Business Investment Companies)

Robert G. Lineberry,

Deputy Associate Administrator for Investment.

Dated: January 24, 1989.

[FR Doc. 89-2105 Filed 1-27-89; 8:45 am]

BILLING CODE 8025-01-M

DEPARTMENT OF STATE

Office of the Secretary

[Public Notice No. 1092]

Brownsville, TX; Application for Bridge Permit

Notice is hereby given that the Department of State has received an application for a permit authorizing construction of a bridge across the Rio Grande River from the City of Brownsville, Texas to H. Matamoros, Tamaulipas, Mexico. The application has been filed jointly by the City of Brownsville and Cameron County, Texas.

The Department's jurisdiction with respect to this application is based upon Executive Order 11423, dated August 16, 1968, and the International Bridge Act of 1972 (Pub. L. 92-434, 86 Stat. 731, 33 U.S.C. 535 approved September 26, 1972).

As required by E.O. 11423, the Department of State is circulating this application to concerned agencies for comment.

Interested persons may submit their views regarding the application in writing by March 1, 1989 to Mr. Kenneth R. Propp, Office of the Legal Adviser, Economic, Business and Communications Affairs, Room 6420, U.S. Department of State, 2201 C Street, NW., Washington , DC 20520.

The application and related documents made part of the record to be considered by the Department of State in connection with this application are available for inspection and copying in the Office of the Assistant Legal Advisor for Economic, Business and Communications Affairs during normal business hours.

Any questions relating to this notice may be addressed to Mr. Propp at the above address (202) (627-7770).

Date: January 18, 1989.

Ted A. Borek,

Assistant Legal Adviser, Economic, Business and Communications Affairs.

[FR Doc. 89-2016 Filed 1-27-89; 8:45 am]

BILLING CODE 4710-10-M

DEPARTMENT OF TRANSPORTATION

Applications for Certificates of Public Convenience and Necessity and Foreign Air Carrier Permits Filed Under Subpart Q during the Week Ended January 20, 1989

The following applications for certificates of public convenience and necessity and foreign air carrier permits were filed under Subpart Q of the Department of Transportation's Procedural Regulations (See 14 CFR 302.1701 *et seq.*). The due date for answers, conforming application, or motion to modify scope are set forth below for each application. Following the answer period DOT may process the application by expedited procedures. Such procedures may consist of the adoption of a show-cause order, a tentative order, or in appropriate cases a final order without further proceedings.

Docket No. 46075

Date Filed: January 19, 1989.

Due Date for Answers, Conforming Applications, or Motion to Modify Scope: February 16, 1989.

Description: Application of United Air LInes, Inc. pursuant to section 401 of the Act and Subpart C of the Regulations applies for an amendment of its certificate of public convenience and necessity for Route 130 in order to authorize United to provide round-trip foreign air transportation of passengers, property, and mail (1) between the U.S. and Korea via Japan, and (2) between the U.S. and the Philippines via Japan.

Phyllis T. Kaylor,

Chief, Documentary Services Division.

[FR Doc. 89-2076 Filed 1-27-89; 8:45 am]

BILLING CODE 4910-62-M

Federal Aviation Administration

Approval of Noise Compatibility Program; Amarillo International Airport, Amarillo, TX

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice.

SUMMARY: The Federal Aviation Administration (FAA) announces its findings on the noise compatibility program submitted by the city of Amarillo, Texas, under the provisions of Title I of the Aviation Safety and Noise Abatement Act of 1979 (Pub. L. 96-193) and 14 CFR Part 150. These findings are made in recognition of the description of Federal and nonfederal responsibilities in Senate Report No. 96-52 (1980). On July 7, 1988, the FAA determined that the noise exposure maps submitted by the city of Amarillo, Texas, under Part 150 were in compliance with applicable requirements. On November 25, 1988, the Administrator approved the noise compatibility program. All of the recommendations of the program were approved.

EFFECTIVE DATE: The effective date of the FAA's approval of the Amarillo International Airport noise compatibility program is November 25, 1988.

FOR FURTHER INFORMATION CONTACT: Donald C. Harris, Department of Transportation, Federal Aviation Administration, Fort Worth, Texas 76193-0612, (817) 624-5609. Documents reflecting this FAA action may be reviewed at this same location.

SUPPLEMENTARY INFORMATION: This notice announces that the FAA has given its overall approval to the noise compatibility program for Amarillo International Airport, effective November 25, 1988.

Under section 104(a) of the Aviation Safety and Noise Abatement Act of 1979 (hereinafter referred to as "the Act"), an airport operator who has previously submitted a noise exposure map may submit to the FAA a noise compatibility program which sets forth the measures taken or proposed by the airport operator for the reduction of existing noncompatible land uses within the area covered by the noise exposure maps. The Act requires such programs to be developed in consultation with interested and affected parties including local communities, government agencies, airport users, and FAA personnel.

Each airport noise compatibility program developed in accordance with Federal Aviation Regulations (FAR) Part 150 is a local program, not a Federal Program. The FAA does not substitute its judgment for that of the airport proprietor with respect to which measures should be recommended for action. The FAA's approval or disapproval of FAR Part 150 program recommendations is measured according to the standards expressed in Part 150 and the Act and is limited to the following determinations:

a. The noise compatibility program was developed in accordance with the provisions and procedures of FAR Part 150;

b. Program measures are reasonably consistent with achieving the goals of reducing existing noncompatible land uses around the airport and preventing the introduction of additional noncompatible land uses;

c. Program measures would not create an undue burden on interstate or foreign commerce, unjustly discriminate against types or classes of aeronautical uses, violate the terms of airport grant agreements, or intrude into areas preempted by the Federal Government; and

d. Program measures relating to the use of flight procedures can be implemented within the period covered by the program without derogating safety, adversely affecting the efficient use and management of the navigable airspace and air traffic control systems, or adversely affecting other power and responsibilities of the Administrator prescribed by law.

Specific limitations with respect to FAA's approval of an airport noise compatibility program are delineated in FAR Part 150, § 150.5. Approval is not a determination concerning the acceptability of land uses under Federal, state, or local law. Approval does not by itself constituie an FAA implementing action. A request for Federal action or approval to implement specific noise compatibility measures may be required, and an FAA decision on the request may require an envionmental assessment of the proposed action. Approval does not constitute a commitment by the FAA to financially assist in the implemention of the program nor a determination that all measures covered by the program are eligible for grant-in-aid funding from the FAA. Where Federal funding is sought, requests for project grants must be submitted to the FAA Airports Division Office in Forth Worth, Texas.

The City of Amarillo, Texas, submitted to the FAA on December 21, 1987, the noise exposure maps, descriptions, and other documentation produced during the noise compatibility planning study conducted from August 14, 1985, through November 17, 1987. The Amarillo International Airport noise exposure maps were determined by FAA to be in compliance with applicable requirements on June 7, 1988. Notice of this determination was published in the **Federal Register** on July 22, 1988.

The Amarillo International Airport study contains a proposed noise compatability program comprised of actions designed for phased implementation by airport management and adjacent jurisdictions from the date of study completion to the year 1991. It was requested that the FAA evaluate and approve this material as a noise compatibility program as described in section 104(b) of the Act. The FAA began its review of the program on July 22, 1988, and was required by a provision of the Act to approve or disapprove the program wtihin 180 days (other than the use of new flight procedures for noise control). Failure to approve or disapprove such a program within the 180-day period shall be deemed to be an approval of such a program.

The submitted program contained 3 proposed actions for noise mitigation on and off the airport. The FAA completed its review and determined that the procedural and substantive requirements of the Act and FAR Part 150 have been satisifed. The overall program, therefore, was approved by the Administrator effective November 25, 1988.

Outright approval was granted for all of the specific program elements. The city will adopt new regulations to control the development of land uses within the identified noise contours, institute a noise complaint officer to record all noise complaints received from citizens, and monitor the aircraft types and numbers of operations for review and update of the program. These determinations are set forth in detail in a Record of Approval endorsed by the Administrator on November 25, 1988. The Record of Approval, as well as other evaluation materials and the documents comprising the submittal, are available at the FAA office listed above and at the administrative offices of the city of Amarillo, Texas.

Issued in Fort Worth, Texas, January 6, 1989.

Wm. Jack Sasser,

Manager, Airports Division.

[FR Doc. 89-2021 Filed 1-27-89; 8:45 am]

BILLING CODE 4910-13-M

[Summary Docket No. PE-89-3]

Petition for Exemption; Summary of Petitions Received; Dispositions of Petitions Issued

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of petitions for exemption received and of dispositions of prior petitions.

SUMMARY: Pursuant to FAA's rulemaking provisions governing the application, processing, and disposition of petitions for exemption (14 CFR Part 11), this notice contains a summary of certain petitions seeking relief from specified requirements of the Federal Aviation Regulations (14 CFR Chapter I), dispositions of certain petitions previously received, and corrections. The purpose of this notice is to improve the public's awareness of, and participation in, this aspect of FAA's regulatory activities. Neither publication of this notice nor the inclusion or omission of information in the summary is intended to affect the legal status of any petition or its final disposition.

DATE: Comments on petitions received must identify the petition docket number involved and must be received on or before February 20, 1989.

ADDRESS: Send comments on any petition in triplicate to: Federal Aviation Administration, Office of the Chief Counsel, Attn: Rules Docket (AGC-10), Petition Docket No. _____, 800 Independence Avenue SW., Washington, DC 20591.

FOR FURTHER INFORMATION: The petition, any comments received, and a copy of any final disposition are filed in the assigned regulatory docket and are available for examination in the Rules Docket (AGC-10), Room 915G, FAA Headquarters Building (FOB 10A), 800 Independence Avenue SW., Washington, DC 20591; telephone (202) 267-3132.

This notice is published pursuant to paragraphs (c), (e), and (g) of § 11.27 of Part 11 of the Federal Aviation Regulations (14 CFR Part 11).

Issued in Washington, DC, on January 24, 1989.

Clara Thieling,

Acting Manager, Program Management Staff, Office of the Chief Counsel.

Petitions for Exemption

Docket No.: 25757.
Petitioner: Skywings Flight Training.
Regulations Affected: 14 CFR 141.65.
Description of Relief Sought: To allow petitioner to exercise examining authority for flight instruction and air transport pilot written tests.

Docket No.: 25410.
Petitioner: BAE Aviation, Inc.
Regulations Affected: 14 CFR 43.3 and 43.7.
Description of Relief Sought/ Disposition: To allow petitioner to acquire various Viscount aircraft parts from Jadepoint Engineering Ltd., U.K., a British CAA-certificated Viscount repair station. The subject parts have not been maintained or approved for return to service by persons prescribed by §§ 43.3 and 43.7 and are intended to be installed on U.S. Part 125 operator's Viscount aircraft.
DENIAL, January 12, 1989, Exemption No. 5009.

Docket No.: 25626.
Petitioner: Swiss Air Transport Company, Ltd.

Sections of the FAR Affected: 14 CFR 91.27(c), 91.173 (c) and (d), and 45.11; and Part 43, Appendix B, paragraphs (a) and (d).

Description of Relief Sought/ Disposition: To allow petitioner to operate without keeping an FAA Form 337 on board its aircraft which have been modified by installation of fuel tanks in the passenger or baggage compartment. Also, to allow operation of petitioner's U.S.-registered aircraft without having an identification plate secured to the fuselage exterior and, with respect to its U.S.-registered aircraft manufactured before March 7, 1988, without displaying the aircraft model designation and builder's serial number on the aircraft exterior. In addition, to extend this relief to all Part 121 operators.

PARTIAL GRANT, January 6, 1989, Exemption No. 5007.

Docket No.: 051CE.

Petitioner: Beech Aircraft Corporation.

Sections of the FAR Affected: 14 CFR SFAR–41C 5(e)(k).

Description of Relief Sought/ Disposition: Petition for exemption from the aisle width requirements of SFAR 41C–5(e)(k) for Serial Numbers FA–1 through FA–111.

DENIAL, January 5, 1989, Exemption No. 4934.

[FR Doc. 89–1997 Filed 1–27–89; 8:45 am]
BILLING CODE 4910–13–M

Federal Railroad Administration

Petitions for Exemption or Waiver; Lamoille Valley Railroad et al.

In accordance with 49 CFR 211.9 and 211.41, notice is hereby given that eight railroads have petitioned the Federal Railroad Administration (FRA) for a waiver of compliance with the provisions of the Hours of Service Act (83 Stat. 464, Pub. L. 91–169, 45 U.S.C. 64a(e)).

The Hours of Service Act currently makes it unlawful for a railroad to require specified employees to remain on duty for a period in excess of 12 hours. However, the Hours of Service Act contains a provision that permits a railroad which employs not more than 15 employees who are subject to the statute to seek an exemption from the 12-hour limitation.

Lamoille Valley Railroad (LVRC)

FRA Waiver Petition Docket No. HS–88–25

The LVRC seeks this exemption so that it may permit certain employees to remain on duty not more than 16 hours in any 24-hour period. The LVRC states that it is not its intention to employ a train crew over 12 hours per day under normal operating conditions, but that, if granted, this exemption would help its operation if it encountered unusual operating conditions or circumstances. The LVRC provides service on over 96 miles of track from a connection with the Canadian Pacific Railway at St. Johnsbury, Vermont to a connection with the Central Vermont Railway at Fonda Junction, Vermont. In addition, this carrier interchanges cars with the Twin State Railroad at St. Johnsbury. The Lamoille Valley Railroad and the Twin State Railroad are wholly owned subsidiaries of the Northern Vermont Corporation. The Lamoille Valley and Twin States operations are based at Morrisville, Vermont.

The petitioner indicates that granting the exemption is in the public interest and will not adversely affect safety. Additionally, the petitioner asserts that it employs not more than 15 employees and has demonstrated good cause for granting this exemption.

Twin State Railroad (TWIN)

FRA Waiver Petition Docket No. HS–88–29

The TWIN seeks this exemption so that it may permit certain employees to remain on duty not more than 16 hours in any 24-hour period. The TWIN states that it is not its intention to employ a train crew over 12 hours per day under normal operating conditions, but that, if granted, this exemption would help the TWIN's operation if it encountered unusual operating conditions or circumstances. The TWIN provides freight service on over 27 miles of track between St. Johnsbury, Vermont and Whitefield, New Hampshire. Interchange is made with the Lamoille Valley and the Canadian Pacific Railway at St. Johnsbury. The Lamoille Valley and the Twin State Railroad are wholly owned subsidiaries of the Northern Vermont Corporation. The Twin State and Lamoille Valley operations are based out of Morrisville, Vermont.

The petitioner indicates that granting the exemption is in the public interest and will not adversely affect safety. Additionally, the petitioner asserts that it employs not more than 15 employees and has demonstrated good cause for granting this exemption.

Arizona Eastern Railway Company (AER)

FRA Waiver Petition Docket No. HS–88–30

The AER seeks this exemption so that it may permit certain employees to remain on duty not more than 16 hours in any 24-hour period. The AER states that it is not its intention to employ a train crew over 12 hours per day under normal operating conditions, but that, if granted, this exemption would help its operation if it encountered unusual operating conditions or circumstances. The AER provides service on over 133 miles of track between Bowie and Miami, Arizona. The AER began operating the former Globe Branch of the Southern Pacific on October 12, 1988. The AER is a subsidiary of the Kyle Railways. The petitioner states that maintenance has been deferred on this line for several years, therefore requiring the major part of the line to be operated at speed of 10 miles per hour maximum.

The petitioner indicates that granting the exemption is in the public interest and will not adversely affect safety. Additionally, the petitioner asserts that it employs not more than 15 employees and has demonstrated good cause for granting this exemption.

Port of Palm Beach Railroad (PPBD)

FRA Waiver Petition Docket No. HS–88–31

The PPBD seeks this exemption so that it may permit certain employees to remain on duty not more than 16 hours in any 24-hour period. The PPBD states that it is not its intention to employ a train crew over 12 hours per day under normal operating conditions, but that, if granted, this exemption would help its operation if it encountered unusual operating conditions or circumstances. The PPBD provides industrial switching service on over 4 miles of track in and around the Port of Palm Beach, Florida.

The petitioner indicates that granting the exemption is in the public interest and will not adversely affect safety. Additionally, the petitioner asserts that it employs not more than 15 employees and has demonstrated good cause for granting this waiver.

West Virginia Railroad Maintenance Authority South Branch Valley Railroad (SBVR)

FRA Waiver Petition Docket No. HS–88–32

The SBVR seeks this exemption so that it may permit certain employees to remain on duty not more than 16 hours in any 24-hour period. The SBVR states that it is not its intention to employ a train crew over 12 hours per day under normal operating conditions, but that, if granted, this exemption would help its operation if it encountered unusual operating conditions or circumstances.

The SBVR provides service on over 52 miles of track from a connection with the CSX Rail Transportation at Green Spring, West Virginia to Petersburg, West Virginia. Operations are based at Moorefield, West Virginia.

The petitioner indicates that granting the exemption is in the public interest and will not adversely effect safety. Additionally, the petitioner asserts that it employs not more than 15 employees and has demonstrated good cause for granting this exemption.

Moscow, Camden & San Augustine Railroad (MCSA)

FRA Waiver Petition Docket No. HS–88–33

The MCSA seeks this exemption so that it may permit certain employees to remain on duty not more than 16 hours in any 24-hour period. The MCSA states that it is not its intention to employ a train crew over 12 hours per day under normal operating conditions, but that, if granted, this exemption would help its operation if it encountered unusual operating conditions or circumstances. The MCSA operates from a connection with the Southern Pacific Transportation Company at Moscow, Texas to Camden, Texas a distance of over 6 miles.

The petitioner indicates that granting the exemption is in the public interest and will not adversely affect safety. Additionally, the petitioner asserts that it employs not more than 15 employees and has demonstrated good cause for granting this exemption.

Mississippi Delta Railroad (MSDR)

FRA Waiver Petition Docket No. HS–88–34

The MSDR seeks this exemption so that it may permit certain employees to remain to duty not more than 16 hours in any 24 hour period. The MSDR states that it is not its intention to employ a train crew over 12 hours per day under normal operating conditions, but that, if granted, this exemption would help its operation if it encountered unusual operating conditions or circumstances. The MSDR provides service on over 29 miles of track between a connection with the Illinois Central at Swan Lake, Mississippi and Jonestown, Mississippi.

The petitioner indicates that granting the exemption is in the public interest and will not adversely affect safety. Additionally, the petitioner asserts that it employs not more than 15 employees and has demonstrated good cause for granting this exemption.

Oregon, California & Eastern Railway Company (OCE)

FRA Waiver Petition Docket Number HS–88–36

The OCE seeks this exemption so that it may permit certain employees to remain on duty not more than 16 hours in any 24-hour period. The OCE states that it is not its intention to employ a train crew over 12 hours per day under normal operating conditions, but that, if granted, this exemption would help its operation if it encountered unusual operating conditions or circumstances. The OCE provides service on over 65 miles of track from connections with the Burlington Northern and Southern Pacific Transportation Company at Klamath Falls to Bly, Oregon.

The petitioner indicates that granting the exemption is in the public interest and will not adversely affect safety. Additionally, the petitioner asserts that it employs not more than 15 employees and has demonstrated good cause for granting this exemption.

Interested persons are invited to participate in these proceedings by submitting written views and comments. FRA has not scheduled an opportunity for oral comment since the facts do not appear to warrant it. If any interested party desires an opportunity for oral comment, he or she should notify FRA, in writing, before the end of the comment period and specify the basis for his or her request. Any communications concerning these proceedings should identify the appropriate docket number (e.g., Waiver Petition Docket Number HS–87–20) and must be submitted in triplicate to the Docket Clerk, Office of Chief Counsel, Federal Railroad Administration, Nassif Building, 400 Seventh Street SW., Washington, DC 20590.

Communications received before March 15, 1989, will be considered by FRA before final action is taken. Comments received after that date will be considered as far as practicable. All comments received will be available for examination both before and after the closing date for comments during regular business hours (9 a.m.–5 p.m.) in Room 8201, Nassif Building, 400 Seventh Street SW., Washington, DC 20590.

Issued in Washington, DC on January 13, 1989.

J.W. Walsh,

Associate Administrator for Safety.

[FR Doc. 89–2033 Filed 1–27–89; 8:45 am]

BILLING CODE 4910–06–M

Petitions for Exemption or Waiver; Union Pacific Railroad et al.

In accordance with 49 CFR 211.9 and 211.41, notice is hereby given that four railroads have petitioned the Federal Railroad Administration (FRA) for a waiver of compliance with certain requirements of the regulations entitled, Hours of Service of Railroad Employees (49 CFR Part 228).

Union Pacific Railroad

Missouri Pacific Railroad

Missouri-Kansas-Texas Railroad

FRA Waiver Petition Docket Numbers HS–88–26, HS–88–27 and HS–88–28, respectively

The three railroads collectively known as the Union Pacific Railroad System (UPRR) seek a permanent waiver of compliance with 49 CFR 228.9(a)(1), which requires that "Records maintained under this part shall be—

(1) Signed by the employee whose time on duty is being recorded or, in the case of train and engine crews, signed by the ranking crew member * * *"

The UPRR seeks this waiver of the regulation insofar as the FRA interprets the regulation to require train dispatchers to manually sign train sheets. In lieu of actual signature, the UPRR desires to permit their train dispatchers to electronically sign on and off duty by typing their first initial, middle initial, last name, time on duty and time off duty at their work station cathode-ray tube. Software edit checks will be provided to inhibit entry of a time other than the correct time. Access to the work station terminals is controlled by the dispatchers and by restricted access to the facility, which UPRR believes will prevent unauthorized data entries. In addition, UPRR asserts that the hours-of-service log is maintained in such a manner that an entry, once made, cannot be changed.

The UPRR presently employs 369 train dispatchers throughout the System located at Cheyenne, WY; Kansas City, KS; Kansas City, MO; North Platte, NE; Little Rock, AR; Portland, OR; Salt Lake City, UT; Sacramento, CA and Spring, TX, who are subject to the requirement that they manually sign train sheets pursuant to § 228.9(a)(1). Although these train dispatchers now are located throughout the system, they will be relocated to a central dispatching function in Omaha, NE; beginning on April 2, 1989. The carrier contends that the regulation prevents continued modernization and productivity

improvements resulting from UPRR's record keeping system.

Metro-North Commuter Railroad (MNCW)

FRA Waiver Petition Docket Number HS–88–35

The MNCW seeks a permanent waiver of compliance with 49 CFR 228.17(a)(5), which requires that "Each carrier shall keep—

(5) Identification of enginemen and conductors and their times on duty."

The MNCW states that it seeks this waiver because on an average weekday, MNCW operates 693 trains; on Saturdays 273 trains; and on Sunday 263 trains. Due to the volume of trains, there is insufficient space on the train dispatchers' Record of Train Movements to record the names of the enginemen and conductors plus their times on duty. MNCW further states that the train dispatcher's workload obtaining required information and recording of same interferes with the dispatchers's other duties of routing of trains in multiple track territory, issuance of authorities and removal of tracks from service for maintenance. The carrier states that the required information is available through the Crew Dispatchers' Office upon request.

Interested persons are invited to participate in these proceedings by submitting written views and comments. FRA has not scheduled an opportunity for oral comment since the facts do not appear to warrant it. If any interested party desires an opportunity for oral comment, he or she should notify FRA, in writing, before the end of the comment period and specify the basis for his or her request. Any communications concerning these proceedings should identify the appropriate docket number (here, Waiver Petition Docket Number HS–88–26, Waiver Petition Docket Number HS–88–27, Waiver Petition Docket Number HS–88–28 or Waiver Petition Docket Number HS–88–35) and must be submitted in triplicate to the Docket Clerk, Office of Chief Counsel, Federal Railroad Administration, Nassif Building, 400 Seventh Street SW., Washington, DC, 20590.

Communications received before March 15, 1989 will be considered by FRA before final action is taken. Comments received after that date will be considered as far as practicable. All comments received will be available for examination both before and after the closing date for comments during regular business hours (9 a.m.–5 p.m.) in Room 8201, Nassif Building, 400 Seventh Street SW., Washington, DC 20590.

Issued in Washington, DC, on January 13, 1989.

J. W. Walsh,

Associate Administrator for Safety.

[FR Doc. 89–2032 Filed 1–27–89; 8:45 am]

BILLING CODE 4910–06–M

National Highway Traffic Safety Administration

Denial of Motor Vehicle Defect Petition; Frederick Lawrence White, Jr. et al.

This notice sets forth the reasons for the denial of a petition submitted to the National Highway Traffic Safety Administration (NHTSA) under section 124 of the National Traffic and Motor Vehicle Safety Act of 1966, as amended (15 U.S.C. 1381 *et seq.).*

On August 11, 1988, Mr. Frederick Lawrence White, Jr., and Mr. Benjamin L. Staponski, Jr., petitioned NHTSA requesting a defect investigation into an alleged safety problem involving leaking hydraulic fluid from the front brake caliper inlet fitting on certain 1986 and 1987 General Motors (GM) "B" car models produced at the Fairfax assembly plant in Kansas City, Kansas. These models include Chevrolet Caprice sedans and wagons, Pontiac Parisienne sedans and wagons, and Buick wagons. The petitioners allege that GM shipped unsafe vehicles, with obvious brake fluid leaks, in violation of Motor Vehicle Safety Standards.

After review of the information provided by the petitioners and by GM, it is concluded that neither NHTSA or GM has discovered any information that would support a conclusion that there is a safety problem with the brake system on the subject vehicles.

A field survey commissioned by GM showed that vehicles in service were not likely to suffer from leaking brakes. This survey was conducted to investigate whether the brake systems on vehicles, which had been identified by the petitioners as either having had leaks or as having had an out of specification inlet fitting bolt torque at the time of their inspections, had either manifested any brake performance problem related to the inlet fitting, if the owners had identified any brake leak condition in use, or if the vehicles' brake system did in fact leak. The reported results show that with 99 percent confidence, at least 99.9 percent of the vehicles would exhibit an average fluid volume displacement of less than 1.13 millicubic inches. None of the ten vehicles reportedly showed any visual evidence of leaks at the caliper inlet fitting, none of them had been repaired for a brake leak at that fitting, and none had been subject to any other repair which would require removal of the fitting.

Analysis of the Office of Defects Investigation computer records for reports of the alleged defect on the subject vehicles revealed no complaints of the alleged defect. GM stated in its response to NHTSA's information request letter that it also has no owner complaints, field reports, accidents, or product liability lawsuits for the alleged defect in the subject vehicles.

There was no violation of Federal Motor Vehicle Safety Standards since there is no standard setting acceptable levels of leakage from hydraulic brake systems. The petitioners were advised of this at a meeting with NHTSA held on August 24, 1988.

Since no safety-related defect trend was discovered, further commitment of resources to determine whether such a trend may exist does not appear to be warranted. This petition was denied.

Authority: Sec. 124, Pub. L. 93–492; 88 Stat. 1470 (15 U.S.C. 1410a); delegations of authority at 49 CFR 1.50 and 501.8.

Issued on January 25, 1989.

George L. Parker,

Associate Administrator for Enforcement.

[FR Doc. 89–2038 Filed 1–27–89; 8:45 am]

BILLING CODE 4910–59–M

VETERANS ADMINISTRATION

Agency Information Collection Under OMB Review

AGENCY: Veterans Administration.

ACTION: Notice.

The Veterans Administration has submitted to OMB for review the following proposal for the collection of information under the provisions of the Paperwork Reduction Act (44 U.S.C. Chapter 35). This document lists the following information: (1) The responsible department or staff office; (2) the title of the collection(s); (3) the agency form number(s), if applicable; (4) a description of the need and its use; (5) how often the information collection must be completed, if applicable; (6) who will be required or asked to report; (7) an estimate of the number of responses; (8) an estimate of the total number of hours needed to respond; and (9) an indication of whether section 3504(h) of Pub. L. 96–511 applies.

ADDRESSES: Copies of the proposed information collection and supporting documents may be obtained from John Turner, Department of Veterans Benefits (203C), Veterans Administration, 810

Vermont Avenue NW., Washington, DC 20420 (202) 233–2744.

Comments and questions about the items on the list should be directed to the VA's OMB Desk Officer, Joseph Lackey, Office of Management and Budget, 726 Jackson Place NW., Washington, DC 20503, (202) 395–7316.

DATES: Comments on the information collection should be directed to the OMB Desk Officer on or before March 1, 1989.

Dated: January 19, 1989.

By direction of the Administrator.

Frank E. Lalley,

Director, Office of Information Management and Statistics.

Extension

1. Department of Veterans Benefits.
2. Request for Supplies.
3. VA Form 28–1905m.
4. This form is used to inform the VA of the supplies the veteran needs to continue his or her vocational rehabilitation program and to certify that the supplies are required, not merely desired, by the veteran.
5. On occasion.
6. Individuals or households; Businesses or other for-profit; Non-profit institutions; Small businesses or organizations.
7. 1,000 responses.
8. 1,000 hours.
9. Not applicable.

[FR Doc. 89–2019 Filed 1–27–89; 8:45 am]

BILLING CODE 8320–01–M

Agency Information Collection Under OMB Review

AGENCY: Veterans Administration.

ACTION: Notice.

The Veterans Administration has submitted to OMB for review the following proposal for the collection of information under the provisions of the Paperwork Reduction Act (44 U.S.C. Chapter 35). This document lists the following information: (1) The responsible department or staff office; (2) the title of the collection(s); (3) the agency form number(s), if applicable; (4) a description of the need and its use; (5) how often the information collection must be completed, if applicable; (6) who will be required or asked to report; (7) an estimate of the number of responses; (8) an estimate of the total number of hours needed to respond; and (9) an indication of whether section 3504(h) of Pub. L. 96–511 applies.

ADDRESSES: Copies of the proposed information collection and supporting documents may be obtained from Patti Viers, VA Clearance Officer (732), Veterans Administration, 810 Vermont Avenue NW, Washington, DC 20420 (202) 233–3172.

Comments and questions about the items on the list should be directed to the VA's OMB Desk Officer, Joseph Lackey, Office of Management and Budget, 726 Jackson Place NW., Washington, DC 20503; (202) 395–7316.

DATES: Comments on the information collection should be directed to the OMB Desk Officer on or before March 1, 1989.

Dated: January 18, 1989.

By direction of the Administrator.

Frank E. Lalley,

Director, Office of Information Management and Statistics.

Revision

1. Department of Memorial Affairs.
2. Application for Standard Government Monument for Installation in a Private, Local or State Veterans Cemetery.
3. VA Form 40–1330.
4. The form is used to apply for a Government provided monument for unmarked graves of eligible veterans and their dependents. The information is used to evaluate an applicant's claim for the monument.
5. On occasion.
6. Individuals or households.
7. 300,000 responses.
8. 75,000 hours.
9. Not applicable.

[FR Doc. 89–2020 Filed 1–27–89; 8:45 am]

BILLING CODE 8320–01–M

Agency Information Collection Under OMB Review

AGENCY: Veterans' Administration.

ACTION: Notice.

The Veterans' Administration has submitted to OMB for review the following proposal for the collection of information under the provisions of the Paperwork Reduction Act (44 U.S.C. Chapter 35). This document lists the following information: (1) The responsible department or staff office; (2) the title of the collection(s); (3) the agency form number(s), if applicable; (4) a description of the need and its use; (5) how often the information collection must be completed, if applicable; (6) who will be required or asked to report; (7) an estimate of the number of responses; (8) an estimate of the total number of hours needed to respond; and (9) an indication of whether section 3504(h) of Pub. L. 96–511 applies.

ADDRESSES: Copies of the proposed information collection and supporting documents may be obtained from John Turner, Department of Veterans' Benefits (203C), Veterans' Administration, 810 Vermont Avenue, NW., Washington, DC 20420, (202) 233–2744.

Comments and questions about the items on the list should be directed to the VA's OMB Desk Officer, Joseph Lackey, Office of Management and Budget, 726 Jackson Place, NW., Washington, DC 20503, (202) 395–7316.

DATES: Comments on the information collection should be directed to the OMB Desk Officer on or before March 1, 1989.

Dated: January 17, 1989.

By direction of the Administrator.

Frank E. Lalley,

Director, Office of Information Management and Statistics.

Extension

1. Department of Veterans' Benefits.
2. Compliance Inspection Report.
3. VA Form 26–1839.
4. This form is used by fee compliance inspectors to report the acceptability of residential construction and its conformity with standards prescribed by law for new housing proposed as security for guaranteed loans. Because compliance inspections are a common practice in the housing industry, only one burden hour is shown for reporting purposes.
5. On occasion.
6. Individuals or households; Small businesses or organizations.
7. 225,000 responses.
8. 1 hour.
9. Not applicable.

[FR Doc. 89–2013 Filed 1–27–89; 8:45 am]

BILLING CODE 8320–01–M

Advisory Committee on Health-Related Effects of Herbicides; Meeting

The Veterans Administration gives notice under the provisions of Pub. L. 92–463 that a meeting of the Advisory Committee on Health-Related Effects of Herbicides will be held in Room 119 of the Veterans Administration Central Office, 810 Vermont Avenue NW., Washington, DC, on March 16, 1989, at 8:30 a.m.

The Committee will (1) review and make appropriate recommendations relative to the Veterans

Administration's programs to assist Vietnam veterans who were exposed to herbicides; such recommendations may concern the information delivery system and outreach efforts, scheduling of Agent Orange-related examinations, essential follow-up activities, and other related matters; (2) advise the Administrator on VA Agent Orange-related programs, programs of the Federal Government, and State programs which are designed to assist veterans exposed to herbicides, and simultaneously, will minimize duplication of VA and other federal programs concerned with the Agent Orange issues; (3) receive and review information from veterans service organizations regarding services provided by the Veterans Administration to Vietnam veterans concerned about the possible adverse health effects of exposure to herbicides; (4) review and comment on proposals for research on the possible health effects of exposure to herbicides; and (5) serve as a forum for individual veterans to inform the Veterans Administration of their views on policy issues and on the operation of Agency programs designed to assist veterans exposed to herbicides and dioxins in Vietnam. The meeting will be open to the public up to the seating capacity of the room.

Minutes of the proceedings and rosters of the Committee members may be obtained from Mr. Donald Rosenblum, Agent Orange Projects Office (10B/AO), Department of Medicine and Surgery, Veterans Administration Central Office, Washington, DC 20420. (Telephone: (202) 233–4117).

Dated: January 11, 1989.

By direction of the Administrator.

Rosa Maria Fontanez,

Committee Management Officer.

[FR Doc. 89–2034 Filed 1–27–89; 8:45 am]

BILLING CODE 8320-01-M

Sunshine Act Meetings

Federal Register
Vol. 54, No. 18
Monday, January 30, 1989

This section of the FEDERAL REGISTER contains notices of meetings published under the "Government in the Sunshine Act" (Pub. L. 94-409) 5 U.S.C. 552b(e)(3).

FEDERAL DEPOSIT INSURANCE CORPORATION

Agency Meeting

Pursuant to the provisions of the "Government in the Sunshine Act" (5 U.S.C. 552b), notice is hereby given that at 2:09 p.m. on Tuesday, January 24, 1989, the Board of Directors of the Federal Deposit Insurance Corporation met in closed session to consider the application of TVB Acquisition Bank, Fruitland, Idaho, a proposed new bank in organization, for consent to merge, under its charter and with the title "Treasure Valley Bank," with Treasure Valley Bank, Fruitland, Idaho, and for consent to establish the eight branches of Treasure Valley Bank as branches of the resultant bank.

The Board also considered matters relating to: (1) An administrative enforcement proceeding; (2) the possible closing of certain insured banks; (3) the Corporation's liquidation activities; and (4) a request for financial assistance pursuant to section 13(c) of the Federal Deposit Insurance Act.

In calling the meeting, the Board determined, on motion of Director C.C. Hope, Jr. (Appointive), seconded by Director Robert L. Clarke (Comptroller of the Currency), concurred in by Chairman L. William Seidman, that Corporation business required its consideration of the matters on less than seven days' notice to the public; that no earlier notice of the meeting was practicable; that the public interest did not require consideration of the matters in a meeting open to public observation; and that the matters could be considered in a closed meeting by authority of subsections (c)(2, (c)(6), (c)(8), (c)(9)(A)(ii), and (c)(9)(B) of the "Government in the Sunshine Act" (5 U.S.C. 552b(c)(2), (c)(6), (c)(8), (c)(9)(A)(ii), and (c)(9)(B)).

The meeting was held in the Board Room of the FDIC Building located at 550–17th Street, NW., Washington, DC.

Dated: January 25, 1989.

Federal Deposit Insurance Corporation.

Robert E. Feldman,

Deputy Executive Secretary.

[FR Doc. 89–2160 Filed 1–26–89; 1:51 pm]

BILLING CODE 6714-01-M

FEDERAL MARITIME COMMISSION

"FEDERAL REGISTER" CITATION OF PREVIOUS ANNOUNCEMENT: January 19, 1989—54 FR 2257.

PREVIOUSLY ANNOUNCED DATE AND TIME OF THE MEETING: January 25, 1989—10:00 a.m.

CHANGE IN THE MEETING: Addition of Item 3 in the Closed Session:

3. Docket No. 81–11—Fifty Mile Container Rule—Compliance with Federal Maritime Commission Cease and Desist Order.

CONTACT PERSON FOR MORE INFORMATION: Joseph C. Polking, Secretary, (202) 523–5725.

Joseph C. Polking,

Secretary.

[FR Doc. 89–2159 Filed 1–26–89; 1:51 pm]

BILLING CODE 6730-01-M

MARINE MAMMAL COMMISSION

TIME AND DATE: As previously noticed in the **Federal Register** of 24 October 1988, the Marine Mammal Commission and its Committee of Scientific Advisors on Marine Mammals will meet in executive session on Thursday, February 23, 1989, from 8:30 a.m. to 10:00 a.m. They will meet in public on Thursday, February 23, from 10:00 a.m. to 5:00 p.m., on Friday, February 24, from 9:00 a.m. to 5:00 p.m., and on Saturday, February 25, from 9:00 a.m. to 1:00 p.m.

PLACE: Doubletree Hotel at Fisherman's Wharf, 2 Portola Plaza, Monterey, California 93940.

STATUS: The executive session will be closed to the public. All other portions of the meeting will be open to public observation. Public participation will be allowed if time permits and such participation is determined to be desirable by the Chairman.

MATTERS TO BE CONSIDERED: While the Commission and Committee will meet in public session to discuss a broad range of marine mammal issues, key topics for discussion will be: actions to be taken as a result of amendments to the Marine Mammal Protection Act; marine mammal/fisheries interactions; the tuna/porpoise issue; the Southern sea otter; international whaling; bowhead whales; Hawaiian monk seals; West Indian manatees; marine debris; recovery plans for endangered whales; and other relevant marine mammal issues.

CONTACT PERSON FOR MORE INFORMATION: Ms. Marian Graham, Administrative Officer, Marine Mammal Commission, 1625 I Street, NW., Washington, DC 20006. (202) 653–6237.

Date: January 25, 1989.

John R. Twiss, Jr.,

Executive Director.

[FR Doc. 89–2175 Filed 1–26–89; 1:51 pm]

BILLING CODE 6820-31-M

Corrections

Federal Register
Vol. 54, No. 18
Monday, January 30, 1989

This section of the FEDERAL REGISTER contains editorial corrections of previously published Presidential, Rule, Proposed Rule, and Notice documents and volumes of the Code of Federal Regulations. These corrections are prepared by the Office of the Federal Register. Agency prepared corrections are issued as signed documents and appear in the appropriate document categories elsewhere in the issue.

DEPARTMENT OF EDUCATION

Institutional Quality Control Pilot Project

Correction

In notice document 88-29665 appearing on page 52387 in the issue of Tuesday, December 27, 1988, make the following correction:

In the first column, under **EFFECTIVE DATE**, in the second and third lines, "on or before February 10, 1989" should read "45 days after publication in the **Federal Register**".

BILLING CODE 1505-01-D

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

[Docket Nos. CP87-75-001 et al.]

Tennessee Gas Pipeline Co. et al.; National Gas Certificate Filings

Correction

In notice document 89-1219 beginning on page 2202 in the issue of Thursday, January 19, 1989, make the following corrections:

1. On page 2203, in the first column, under **2. Williams Natural Gas Company**, the bracketed information should read as follows:

[Docket No. CP89-529-000]

2. On page 2211, in the first column, under **29. Williams Natural Gas Company**, the bracketed information should read as follows:

[Docket No. CP89-554-000]

BILLING CODE 1505-01-D

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 261

[SW-FRL-3493-1]

Hazardous Waste Management System; Identification and Listing of Hazardous Waste; Proposed Denial

Correction

In proposed rule document 88-28955 beginning on page 50550, in the issue of Friday, December 16, 1988 , make the following corrections:

1. On page 50553, in Table 1, under "Prim. lagoon", the seventh entry should be correctly aligned and should read "4,320".

2. On the same page, under Table 1, in the third column, in the second line, after "for", "1982" should read "1981".

BILLING CODE 1505-01-D

DEPARTMENT OF THE TREASURY

31 CFR Part 103

Amendment to the Bank Secrecy Act Regulations Relating to Domestic Currency Transactions

Correction

In rule document 89-1344 beginning on page 3023 in the issue of Monday, January 23, 1989, make the following correction:

On page 3023, in the second column, the text of the **DATE** paragraph should read "These amendments are effective February 22, 1989."

BILLING CODE 1505-01-D

federal register

Monday
January 30, 1989

Part II

Department of Transportation

Coast Guard

46 CFR Part 170 et al.

Small Passenger Vessel Inspection and Certification; Notice of Proposed Rulemaking

DEPARTMENT OF TRANSPORTATION

Coast Guard

46 CFR Parts 170, 171, 173, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, and 185

[CGD 85-080]

RIN 2115-AC22

Small Passenger Vessel Inspection and Certification

AGENCY: Coast Guard, DOT.

ACTION: Notice of proposed rulemaking.

SUMMARY: The Coast Guard is proposing to revise the regulations governing small passenger vessels which are in Title 46, Code of Federal Regulations, Parts 175 through 187 (Subchapter T). Subchapter T contains the regulations for the inspection and certification of small passenger vessels including requirements on construction, outfitting of lifesaving and fire protection equipment, machinery and electrical installations, and operations. The term "small passenger vessel" generally includes any vessel of less than 100 gross tons carrying more than six passengers.

The regulations in Subchapter T were initially developed in the late 1950's and early 1960's. Significant changes have occurred within the past twenty years affecting the small passenger vessel fleet including: Statutory changes, increases in physical vessel size and passenger capacity, increase in the services offered by the owners and managing operators of small passenger vessels, expansion of vessel routes, and technological advances. Consequently, Subchapter T needs to be updated to reflect these changes.

DATES: Comments must be received on or before May 30, 1989.

ADDRESSES: Written comments should be submitted to The Executive Secretary, Marine Safety Council (G-LRA-2/3600)(CGD 85-080), U.S. Coast Guard Headquarters, 2100 Second Street, SW., Washington, DC 20593-0001. Comments may be delivered to and will be available for inspection or copying, and the materials referenced in this notice will be available for examination and copying, at the Marine Safety Council (G-LRA-2), Room 3600, U.S. Coast Guard Headquarters, 2100 Second Street SW., Washington, DC 20593-0001, (202) 267-1477, between 8 a.m. and 3 p.m., Monday through Friday, except holidays.

FOR FURTHER INFORMATION CONTACT: LCDR William P. Cummins, Project Manager, Office of Merchant Marine Safety, Security, and Environmental Protection, (G-MVI), phone (202) 267-1181.

SUPPLEMENTARY INFORMATION: This notice contains a complete revision of Title 46, Code of Federal Regulations, Subchapter T. Subchapter T, consisting of Parts 175 through 187, contains the regulations governing the inspection and certification of small passenger vessels. A small passenger vessel is defined by Title 46, United States Code, Section 2101 as a vessel of less than 100 gross tons carrying more than six passengers. The approximately 4800 vessels which are categorized as small passenger vessels comprise the largest category of commercial vessels subject to inspection in the United States.

Both the Coast Guard and the small passenger vessel industry have realized the need for and the importance of revising the regulations contained in Subchapter T for several years. The last major revision of the subchapter was made in 1963. The Coast Guard has made numerous minor revisions to the regulations since that time, but those revisions have not been sufficient to keep abreast of the many changes affecting the small passenger vessel fleet in the last 20 years.

Although the Coast Guard has periodically reviewed the regulations in Subchapter T in the past, the present effort to revise the regulations was initiated in 1982, and a regulatory docket was established in 1985. Alternatives to a complete revision of Subchapter T were considered. First, the Coast Guard could continue to use the existing regulations. However, because the regulations are outdated, it is necessary to extensively use informal policy. This situation is unsatisfactory since not everyone building and operating small passenger vessel is aware of such policy. Second, individual problems, such as those caused by statutory changes, could be corrected by separate regulatory projects under individual dockets. However, the process to completely make all the necessary changes on an individual basis would be unnecessarily duplicative, more lengthy, and result in more inconsistencies than a complete revision.

Therefore, the Coast Guard is proposing to revise the entire Subchapter T at this time. Proposed regulations for Parts 175 to 185, which include inspection, certification, design, and equipment requirements, are contained in this notice. Proposed revisions of the manning regulations for small passenger vessels are being developed separately under docket CGD 85-080A but in coordination with this project.

As part of this proposal to revise Subchapter T, the Coast Guard is also proposing to revise portions of 46 CFR Subchapter S, Subdivision and Stability, which affect small passenger vessels. Parts 170, 171, and 173 of Subchapter S are proposed to be revised.

A regulatory information number (RIN) is assigned to each regulatory action listed in the Unified Agenda of Federal Regulations. The Regulatory Information Service Center publishes the Unified Agenda in April and October of each year. The RIN number contained in the heading of this document can be used to cross reference this action with the Unified Agenda.

Requests For Comments

Interested persons are invited and encouraged to participate in this proposed rulemaking by submitting written views, data, or arguments. As discussed later in this preamble, the Coast Guard considered input from many sources to develop proposed regulations which would best address both the safety and operational needs of small passenger vessels. However, due to the variety of vessels that comprise the small passenger vessel fleet and their various needs, it is difficult to adequately address all situations and analyze the effect the proposed regulations would have on all vessels. Consequently, the Coast Guard seeks input on all aspects of the proposed regulations from vessel owners, operators, architects, and builders, and from consumers, equipment and material vendors, insurers, surveyors, and other persons involved with small passenger vessels. Comments concerning the proposed regulations, including additional costs they may impose upon the small passenger vessel industry, are requested.

Persons submitting comments should include their name and address, reference this notice (CGD 85-080), give the specific section of the proposed regulations to which each comment applies, and include supporting documents or sufficient detail to indicate the reason for each comment. Persons desiring an acknowledgment that their comments were received should include a stamped, self-addressed envelope or postcard. This proposal may be changed in light of the comments received. All comments received before the expiration of the comment period will be considered before final action is taken on this proposal.

Public Hearings

The Coast Guard plans to hold public hearings on this rulemaking in Washington, DC, New Orleans, LA, and San Francisco, CA. Hearings may be held in other locations if requested in writing by interested persons who can demonstrate that other opportunities to make an oral presentation will aid this rulemaking. Comments on hearings on this rulemaking must be received prior to March 1, 1989. Details of the times, dates, and locations of hearings will be published in the **Federal Register**.

Drafting Information

The principal persons involved in the drafting of this proposal are LCDR William P. Cummins, Project Manager, LCDR Mark G. VanHaverbeke, Project Analyst, Office of Merchant Marine Safety, Security, and Environmental Protection, and CDR Gerald A. Gallion, Project Attorney, Office of Chief Counsel.

Background

History of Regulations

The regulations in Subchapter T were initially developed in the late 1950's as an outgrowth of the booming boating industry and the recognized need for improved safety aboard small passenger vessels. During 1951 the motorboats JACK and PELICAN were lost resulting in 11 and 45 deaths, respectively. Investigations into the accidents concluded that if such vessels were required by law to be inspected for certification the JACK would not have been certificated due to its poor material condition and the PELICAN would have been limited to carrying about 30 persons (there were 62 persons aboard at the time of the accident). These and other accidents prompted Congress to pass the "Small Passenger Vessel Act" of 1956 (Pub. L. 84–519) requiring the inspection and certification of vessels of 65 feet or less in length, measuring more than 15 but less than 100 gross tons, and carrying more than 6 passengers. Public Law 84–519 was codified in the United States Code in 46 U.S.C. 390.

Under the authority of the Secretary of Treasury, the U.S Coast Guard was directed to develop regulations to carry out the law. The initial regulations applicable to small passenger vessels subject to Pub. L. 84–519 were promulgated in Title 46, Code of Federal Regulations, Subchapter T, in the **Federal Register** of October 5, 1957 (22 FR 7949). The initial regulations took effect on June 1, 1958. Based on experience gained with the initial inspection and certification of more than 4,000 small passenger vessels, significant changes were made to Subchapter T on September 29, 1960, as published in the **Federal Register** (25 FR 9315).

In 1963 the scope of the regulations in Subchapter T was broadened to include vessels of more than 65 feet in length, measuring less than 100 gross tons, and carrying one or more passengers (28 FR 9733). Such vessels were required to be inspected and certificated annually under the authority of 46 U.S.C. 404. By including these small vessels under Subchapter T the need for referencing several subchapters when determining the applicable requirements for these small vessels was eliminated, and the regulations for all small passenger vessels were grouped into one subchapter.

The grouping of two classes of small passenger vessels with different inspection authorities, 46 U.S.C. 390 and 46 U.S.C 404, under one set of inspection regulations resulted in the Coast Guard establishing two statutorily recognized categories of vessels within Subchapter T. The division was necessary because of differences in the inspection laws governing the two categories of small passenger vessels. Although the governing laws have changed, the distinction between the two categories remains in Subchapter T today. The two categories are T–S vessels, which include small passenger vessels of not more than 65 feet in length carrying more than 6 passengers, and T–L vessels, which include those of more than 65 feet in length carrying one or more passengers.

Although many of the requirements are the same, Subchapter T contains many differing requirements for each vessel category, reflecting vessel size, potential passenger carrying capacity, and operating conditions. Due to original differences in 46 U.S.C. 390 and 46 U.S.C 404, T–S vessels are issued a Certificate of Inspection (COI) valid for three years following completion of a triennial inspection, while T–L vessels are issued a COI valid for one year following an annual inspection. Additionally, a T–S vessel is required to undergo two annual reinspections during the life of its COI.

Public Law 84–519 intended that the regulations promulgated thereunder provide a standard of safety for weekend fishermen on party fishing boats, sightseers on small excursion boats, and possibly small ferries. The vessels to be regulated were of various designs, often principally owned by individuals or families, and normally operated on a tight budget. They usually operated out of a single port and, for the most part, would be inspected and certificated by a single Officer in Charge, Marine Inspection (OCMI). In an attempt to equitably regulate such a diverse group of vessels, many having operated safely for years, the Coast Guard developed regulations which were flexible. They were purposely written so that local peculiarities and differing types of vessels and operations could be equitably accounted for by the local OCMI when applying the regulations. For the most part, the regulations had different requirements for each vessel type, reflecting vessel size, potential passenger carrying capacity, and potential operating conditions.

The regulations gave the local Officers in Charge, Marine Inspection, a great deal of discretion to set the safety standards for small passenger vessels built and operated in their zones. This was in recognition of the small size and limited operating areas of most small passenger vessels. Since the OCMI had knowledge of local operating conditions, such as weather and sea conditions, the availability of harbors of safe refuge, search and rescue facilities, and other specialized local knowledge, the regulations were structured to give the OCMI maximum flexibility to set standards that were appropriate to the prevalent conditions. The OCMI decided which of the local factors impacted upon vessel operations and safety, and then set appropriate standards as allowed by the regulations.

Several minor revisions have been made to Subchapter T since it underwent its last major revision in 1963. However, the minor revisions have not kept abreast of the numerous changes which have occurred affecting the small passenger vessel fleet since the early 1960's. The regulations generally remain satisfactory for the type of vessels that they were initially written for, including party fishing boats, small excursion boats, and small ferries. However, numerous other types of small passenger vessels are now regulated by Subchapter T including large overnight cruise vessels, very large excursion vessels, dynamically supported craft, and vessels which may operate in several Coast Guard marine inspection zones throughout the year. In addition, both statutory changes and technological advances have affected the construction, equipping, and operation of small passenger vessels.

Small Passenger Vessel Fleet

Statistics in this section show the large number and variety of vessels which presently comprise the small passenger vessel fleet. The large number and variety both contribute to the need

to revise Subchapter T and complicate the revision process. Most of the statistics in this section and throughout the preamble were obtained from the U.S. Coast Guard Marine Safety Information System (MSIS) in late 1987. Information from the MSIS was also used in completing the regulatory evaluation.

The service of small passenger vessels currently operating includes ferries, excursion boats used for sightseeing and dinner cruises, overnight cruise boats, party fishing (head) boats, charter fishing boats, dive boats, crew boats for the offshore oil industry many of which also carry freight, passenger barges, and submersibles. Small passenger vessels are now propelled by a variety of means including: Diesel engines; gasoline inboard, inboard/outboard, and outboard motors; electric motors; cable pull; mule tow; sail; and steam engines.

An MSIS data capture in July, 1987 indicated there were 4744 vessels certificated under Subchapter T. Of the 4744 vessels, 3657 were classed as T–S vessels, i.e., of not more than 65 feet in length, and 1087 were T–L vessels, i.e., of more than 65 feet in length. Twenty-two vessels were greater than 150 feet in length.

Eleven hundred thirty-three vessels were certificated with oceans routes, 1553 with coastwise routes, 1083 with lakes, bays, and sounds routes, and 975 with Great Lakes or rivers routes.

The maximum number of passengers that small passenger vessels are permitted to carry varies from 7 to over 1300. The passenger carrying capacity of the total small passenger vessel fleet is 303,000.

Fifty percent of the existing small passenger vessel fleet has been built since 1970. Approximately 185 new vessels have entered the small passenger vessel fleet every year since that date.

Reason for Revision

The following events, which have occurred since the initial promulgation of the regulations, necessitate a complete revision of Subchapter T.

1. *Statutory Changes.* Subchapter T needs to be revised to reflect the statutory changes originally made by Pub. L. 96–378 and now codified in Title 46 of the U.S. Code. This change placed all vessels measuring less than 100 gross tons carrying more than 6 passengers under the inspection authority of a single statute, 46 U.S.C. 390. Section 390 was subsequently repealed by Pub. L. 98–89 of August 26, 1983. Pub. L. 98–89 revised, consolidated, and enacted certain laws related to vessels and seamen as Subtitle II of Title 46, United States Code, "Shipping." The authority for the inspection and certification of small passenger vessels was relocated to and is now found in 46 U.S.C. 3301(8).

As a result of the changes originally made by Pub. L. 96–378, there is no longer a statutory authority separating small passenger vessels into two categories. However, the T–S and T–L categories still exist in Subchapter T. Additionally, the T–L vessel designation in Subchapter T is now incorrect in that it still classifies a vessel carrying one or more passengers as a small passenger vessel while the law states that the criterion is more than six passengers.

2. *Increase in Vessel Size and Capacity.* Another reason for modifying Subchapter T is so that it will better reflect the needs of the increasingly larger physical size of small passenger vessels. A review of the data on small passenger vessels indicates a general trend toward larger vessels. In 1964, the first year that statistics were available which separated small passenger vessels by T–S and T–L categories, there were 3809 small passenger vessels. Of these, 175 or 4.6%, were classified as T–L vessels. As of July 30, 1987, the number of T–L vessels had risen to 1087 vessels, or 24% of the total number of small passenger vessels. While the T–S and T–L categories primarily reflect a vessel's length, T–L vessels also generally have a greater passenger capacity than T–S vessels.

In addition, there is an increasing number of vessels characterized as "very large" small passenger vessels by the U.S. Coast Guard Navigation and Vessel Inspection Circular No. 11–83 (NVIC 11–83). Such vessels are under 100 gross tons yet are of more than 79 feet in length. There are now approximately 840 small passenger vessels of more than 79 feet in length, including some that are of more than 200 feet in length and carry more than 1000 passengers.

NVIC 11–83 discusses such "very large" small passenger vessels that have overnight accommodations for more than 50 passengers. The hazards involved with the operation of these large overnight cruise vessels are different than those faced by most small passenger vessels. There are now about 18 vessels of this type. One "very large" small passenger vessel, which was recently certificated, is of more than 240 feet in length and carries 128 overnight passengers.

A primary reason for the vast increase in the number of T–L vessels, especially "very large" small passenger vessels, has been the development and increased use of various design innovations. These innovations result in the gross tonnage of a vessel being less than that of a passenger vessel of comparable size which would have to be inspected under 46 CFR Subchapter H (Passenger Vessels). Subchapter H contains the regulations for the inspection and certification of vessels of at least 100 gross tons carrying passengers.

Boat builders are gaining more expertise in the use of the various exemptions, reductions, and other devices which are used in the basic tonnage formula to lower gross tonnage. The use of these innovations is not only to place a vessel under the inspection standards of Subchapter T, which are in most instances significantly less stringent than the standards of Subchapter H, but also to allow the vessel to be manned with the lesser crew complement permitted on small passenger vessels.

The existing regulations in Subchapter T were not developed considering the hazards and risks associated with the operation of these "very large" small passenger vessels. Compliance with the existing regulations in Subchapter T alone does not provide an adequate level of safety from the hazards and risks caused by the physical size, passenger capacity, and operations of "very large" small passenger vessels.

3. *Changing Scope of Operation.* While vessels have been getting larger, their trades have also often changed. Public Law 84–519 intended that the regulations promulgated thereunder provide a standard of safety for weekend fishermen, sightseers, and possibly small ferries. The vessels to be regulated principally operated out of a single port and, for the most part, were inspected and certificated by a single OCMI. Most of the vessels continued to operate in the marine inspection zone where their original inspection for certification was completed. Because of the very localized nature of most small passenger vessels when the regulations were initially developed, the regulations were intentionally made flexible. They were purposely written in this manner so that local peculiarities and different types of vessels and operations could be equitably accounted for by local officials when applying the regulations.

However, the environment in which small passenger vessels operate has changed dramatically. A sizeable number of these vessels no longer operate out of one port, especially those in seasonal passenger trades, and local considerations are of less importance to most of these operations. Vessels built for operation in one OCMI zone or for a particular type of operation, are for various reasons changing operations

and operating in other OCMI zones or other trades. There are now also more small passenger vessels engaged in international voyages which are required to comply with the International Convention for Safety of Life at Sea.

Because of the changing scope of operations, the flexibility built into the original regulations now often causes inconsistencies. The standards applied in one port are not the same as those applied in another; even the standards within a marine inspection zone vary as OCMIs change. The Coast Guard's ability to consistently apply and enforce the regulations will be enhanced by development of a single set of standards more applicable to all small passenger vessels.

4. *Technological Advances.* Subchapter T does not presently address many technological advances which have occurred since the regulations were initially promulgated. Such advances have helped improve the operational capability and safety of a vessel. Examples include improvements in fire protection equipment such as Halon systems and the development and proven use of smoke detectors, gasoline vapor detectors, bilge level alarms, and improved electrical cable insulations. Industry has responded to many recent advances by developing industrial standards and codes, not presently addressed in Subchapter T, which will help ensure uniform and safe design, construction, and installation of equipment and materials used aboard small passenger vessels. There has also been a significant cost reduction in many types of equipment due to technological advances and increased use of such equipment including Halon fire extinguishing systems, radar, LORAN, and inflatable liferafts. A piece of equipment, such as LORAN, was prohibitively more expensive and more difficult to use several years ago than today. The regulations need to be revised to reflect these technological changes by, in some cases, allowing the use of certain equipment now prohibited and, in other cases, requiring the installation of equipment not previously available or feasible to install on a small passenger vessel.

5. *Development in Hull Materials and Vessel Designs.* The use of fiber reinforced plastic (FRP) and aluminum has significantly increased in the last 25 years. Approximately 16 percent of all small passenger vessels now have FRP hulls and 21 percent have aluminum hulls. Of the vessels built within the last three years, 29 percent have FRP hulls and 26 percent have aluminum hulls. When the regulations were initially promulgated, almost all small passenger vessels were built completely of steel or wood.

Additionally, the present regulations do not appropriately address the unique design and operating characteristics and capabilities of many vessels which twenty years ago were considered novel craft but which have become much more common and accepted. Included among these vessels are dynamically supported craft (DSC) such as hydrofoils, air cushion vessels, and surface effect ships. Certain high speed planing and semi-planing vessels may also be considered DSC. Presently, the U.S. Coast Guard Marine Safety Information System lists 4 hydrofoils, 1 air cushion vessel, and 5 surface effect ships as certificated small passenger vessels. Additionally, there are approximately 130 multihull vessels certificated as small passenger vessels, of which 25 may be dynamically supported when underway due to their speed capability and size. The number of such vessels used to carry passengers is expected to greatly increase in the future.

Since Subchapter T was written primarily for displacement hulls, it is difficult to apply many areas of the existing regulations to DSC. Builders and owners have increasingly asked the Coast Guard to accept the design of DSC under the equivalency provision of existing 46 CFR 175.15 on the basis that particular equipment, apparatus, or arrangements required by Subchapter T are unreasonable or impracticable for a DSC. In each case, the parties requesting Coast Guard approval of design or equipment are required to demonstrate that proposed alternatives would provide a degree of safety that meets or exceeds the minimum standards in Subchapter T. Such equivalencies are usually based on compliance with the International Maritime Organization's "Code of Safety for Dynamically Supported Craft" (DSC Code), as well as classification, society rules and DSC standards of other governments. Because DSC are not specifically addressed in Subchapter T, the inconvenience of demonstrating equivalency is an increasingly burdensome task for industry and the Coast Guard. For this reason, and because DSC are no longer considered novel craft due to their wide acceptance and increasing number, Subchapter T should be revised to specifically address dynamically supported craft.

6. *Vessel Casualties.* Following investigations of numerous casualties involving inspected small passenger vessels, the National Transportation Safety Board (NTSB) and Coast Guard investigators have recommended many revisions to the existing regulations in Subchapter T which they believe would help prevent casualties or alleviate damages and injuries from future casualties. The Coast Guard agrees with many of the investigation recommendations that have been made. A study of the existing regulations, National Transportation Safety Board reports, and Coast Guard vessel casualty reports reveals that the existing regulations do not provide an appropriate level of protection from the safety hazards and risks that many small passenger vessels are subject to today. The primary areas of concern are lifesaving equipment, fire protection standards, manning, and vessel operations.

Casualty Data. As part of the project to revise Subchapter T, data on casualties involving small passenger vessels was reviewed looking for the repeated occurrence of certain types of casualties which may have been mitigated by changes in the regulations. The casualty information presented below is a summary of the data for inspected small passenger vessels from 1981 through 1986. This six year period is used because the Coast Guard's Commercial Casualty Data Base and the Personnel Casualty Data Base, from which the information was obtained, were first used in 1981. These systems provide more reliable casualty information than available from data systems used in previous years. The casualty figures which follow reflect reported casualties over the six year period with interpolation necessary in some cases. Their accuracy may be affected by the failure to report some casualties.

The data presented only includes marine casualties which are required to be reported to the Coast Guard by 46 U.S.C. 6101 and 46 CFR 4.05–1 of Subchapter T. Casualties must be reported to the Coast Guard if they involve groundings, loss of maneuvering capability, an occurrence affecting the seaworthiness of a vessel, a loss of life, injury causing incapacitation for more than 72 hours, or any casualty resulting in more than $25,000 in property damage.

1981–1986 SMALL PASSENGER VESSEL CASUALTIES

Nature	Number of casualties	Deaths	Injuries
Casualties involving total loss of a vessel with accompanying deaths and injuries:			
Collision	9	1	2
Sank/Broke Up/Fire (while moored)	8	0	0
Explosion/Fire (other than while moored)	8	0	0
Flooding/Foundering (8 had wood hulls)	11	9	4
Capsizing	4	0	3
Unknown	2	0	0
Grounding	2	3	0
Total	44	13	9
Casualties materially affecting a vessel (including total loss) with accompanying deaths and injuries:			
Collision	156	2	57
Explosion/Fire	74	0	11
Capsizing/Foundering/Flooding/Swamping	128	13	11
Grounding	182	1	9
Material failure—to machinery, structure, control and navigating systems	248	1	5
Steering	43	0	0
Disabled	34	0	0
Other	42	6	0
Total	907	23	94

1981–1986 TOTAL DEATHS INVOLVING SMALL PASSENGER VESSELS

[Includes deaths from casualties materially affecting a vessel]

Nature	Number
Diving accident involving person transported to dive site by small passenger vessel	39
Fall into water	29
Suffocation	12
Disappearance	5
Natural cause	5
Other (incl. falls on board, burns, falling objects, crushed)	22
Total	112

Significant Casualties. Several casualties have occurred in the past twenty years which individually have had a significant impact on this proposal. A large number of lives were lost or put at risk during those casualties, or extensive property damage occurred. The NTSB, Coast Guard Marine Boards of Investigation, and/or individual Coast Guard investigators made recommendations which impact this proposal. A summary of some of the casualties, which resulted in recommendations that were considered in developing proposed changes to Subchapter T, follows. Unless otherwise stated, all the vessels cited were inspected small passenger vessels.

COMET. The COMET was a 48 foot, 15 gross ton, party fishing boat. At 8:00 a.m. on May 19, 1973, the vessel foundered and sank in heavy seas off Point Judith Harbor, Rhode Island. The water temperature was 48 °F. Of the 27 persons on board, 11 were rescued, 12 drowned, and 4 are missing. The COMET was not inspected by the Coast Guard at the time of the casualty although it was required to have been.

DIXIE LEE II. The DIXIE LEE II was a 42 foot, 19 gross ton, charter fishing vessel. At 4:25 p.m. on June 6, 1977, the vessel capsized during a sudden, severe thunderstorm. Of the 27 persons on board, 14 persons were rescued, 12 persons died, and 1 is missing. The vessel suffered only minor damage, was refloated, and returned to service.

FANTASY ISLANDER. The FANTASY ISLANDER was a 42 foot, 14 gross ton, wooden vessel. At 3:45 p.m. on September 4, 1984, the vessel caught on fire on Peace River, Punta Gorda, Florida. The 37 persons aboard entered the water and were rescued by boats in the vicinity. There were no injuries but the vessel was totally destroyed.

FINALISTA 100. The FINALISTA 100 was an 84 foot, 96 gross tons, wooden hull vessel. At 4:00 a.m. on October 23, 1982, the vessel burned and sank while operating 37 miles southwest of Point Buchon, California after a fire started in the vessel's machinery space. The water temperature was 50 °F to 60 °F. All 43 persons on board were saved.

FISH-N-FOOL. The FISH-N-FOOL was a 55 foot, 69 gross ton, chartered fishing vessel. At 1:00 p.m. on February 5, 1987, the vessel capsized while off of Baja California Norte, Mexico, and sank in 59 °F water. Of the 12 persons aboard, 2 were rescued, 2 died, and 8 are missing.

JOAN LA RIE III. The JOAN LA RIE III was a 50 foot, 29 gross ton, charter fishing vessel. At 11:46 a.m. on October 24, 1982, the vessel was swamped by a large wave and sank about 8.5 miles east of Manasquan, New Jersey, while returning from a fishing trip. The water temperature was 53 °F. Of the 22 persons on board, 6 persons drowned and 2 are missing. Property loss was estimated at $20,000.

MERRY JANE. The MERRY JANE was a 64 foot, 68 gross ton, charter fishing boat. At 4:11 a.m. on February 8, 1986, while the vessel was approaching Bodega Bay, California, the vessel was broached and heeled sharply to starboard resulting in 19 of of the 51 persons onboard being thrown or falling into the water. Nine of those persons drowned and one is missing.

PEARL C. The PEARL C. was a 31 foot, 14 gross ton, charter fishing vessel. At 8:51 p.m. on September 13, 1976, the vessel capsized while being towed across the Columbia River Bar, near Astoria, Oregon. Of the 10 persons aboard, 2 persons were rescued, 1 person drowned, and 7 persons are missing. The vessel was a total loss.

PILGRIM BELLE. The PILGRIM BELLE was a 192 foot, 96 gross ton, vessel with overnight accommodations for 104 passengers and 25 crew members. It was certificated for a lakes, bays, and sounds route along the east coast of the United States and coastwise along the New Jersey shore. At 4:20 p.m. on July 28, 1985, the vessel ran aground in Vineyard Sound, Massachusetts. One hundred persons were evacuated directly onto other vessels in the area. No deaths or injuries occurred. $357,000 in property damage occurred.

SAN MATEO. The SAN MATEO was a 46 foot, 14 gross ton, charter fishing vessel. At 10:00 a.m. on February 16, 1983, the vessel capsized while crossing a bar at the entrance to Morro Bay Harbor, California. All 32 persons on

board were thrown into the water. Three persons were seriously injured. All persons were quickly rescued by nearby harbor patrol and Coast Guard vessels. The vessel was destroyed.

YANKEE. The YANKEE is a 136 foot, 425 gross tons, passenger vessel, inspected under Subchapter H, which is permitted to operate on lakes, bays, and sounds. The Yankee is similar in physical size to many "very large" small passenger vessels with overnight accommodations. At 3:53 p.m. on July 2, 1983, the YANKEE collided with a Liberian freight ship, the HARBEL TAPPER, in dense fog in Rhode Island Sound. Two of the Yankee's 139 passengers were injured. The YANKEE sustained $26,000 in damages and was temporarily out of service. The HARBEL TAPPER, an 8,000 gross ton ship, sustained $25,000 in damages.

7. *Reference Changes.* During the past twenty-five years, many references cited in the existing regulations have changed. New publications have superseded the original publications and, in some cases, new standards have been developed. The existing references need to be updated and the addresses for listed organizations corrected. Additionally, several industry standards exist which may be suitable for incorporation by reference into the regulations. In some cases, industry standards are more current and better suited for particular types of vessels than existing regulations.

8. *Extensive Policy Guidance.* For many of the same reasons that Subchapter T needs to be revised, the Coast Guard has issued a myriad of policy decisions at the local, district, and headquarters level on the technical interpretation and enforcement of Subchapter T. The policies have been promulgated in Navigation and Vessel Inspection Circulars (NVICs), the Coast Guard Marine Safety Manual, policy file memos from the Commandant (G–MTH), and letters. Differences in local policies have created many inconsistencies among inspection zones.

Local policy determination, while acceptable in 1958, creates inconsistencies and economic hardship when a vessel built in one marine inspection zone, operates during the summer in another zone, and spends the winter season in a third zone. Additionally, differences in local standards may put a builder in one zone at an economic disadvantage when bidding against a builder in another zone which has a different policy.

Development of Proposed Regulations

In developing the proposed regulations the laws governing small passenger vessels, Coast Guard policy on enforcement of the existing regulations, and recommendations stemming from casualty investigations were considered. Additionally, comments on and suggested revisions to the existing regulations made by Coast Guard field units and individuals and organizations involved in the small passenger vessel industry were evaluated.

Coast Guard Field Input

Since the initial promulgation of Subchapter T, Coast Guard district offices, marine safety offices, and marine inspection offices have periodically recommended revising various requirements of the small passenger vessel regulations. Field units submitted recommendations to the Commandant usually based on specific problems they were experiencing with the application, adequacy, or burden of particular requirements to vessels within their local inspection zones. Numerous comments were also submitted when, in 1982, the Commandant initiated a review of Subchapter T by soliciting recommended changes to the regulations from field units.

Industry Input

Owners and managing operators of small passenger vessels have provided indirect input to this proposed rulemaking through the numerous requests for equivalents and appeals of requirements made under the existing §§ 175.15–1 and 175.30–15 of Subchapter T. Many proposals accepted as part of an appeal or equivalency determination have been incorporated into this proposed rulemaking.

The expressed concerns of the National Association of Passenger Vessel Owners (NAPVO), as well as other industry organizations, that the structural fire protection requirements of Subchapter T are often too onerous resulted in the initiation of Coast Guard Docket CGD 85–021. NAPVO is a trade association of approximately 330 small passenger vessel owners who operate primarily excursion boats, dinner cruise boats, and ferries. The small passenger vessel organizations were primarily concerned about the application of the structural fire protection requirements of 46 CFR Subchapter H (Passenger Vessels) to vessels carrying more than 150 passengers.

On April 8, 1985, the Coast Guard published in the **Federal Register** (50 FR 13837) a request for comment and notice of meeting on fire protection standards for small passenger vessels under CGD 85–021. The public meeting was held on April 17, 1985. Eighteen individuals involved with the small passenger vessel industry attended the public meeting. Eight separate letters containing numerous comments from individuals and organizations involved with small passenger vessels were submitted in response to the request for comments. The written comments and those received at the public meeting covered a much larger range of regulatory topics than was originally intended by the scope of CGD 85–021.

Because of the broad range of comments received under CGD 85–021 and for the other reasons discussed above in *Reason for Revision*, the Coast Guard decided to initiate a complete revision of Subchapter T under CGD 85–080. Consequently, CGD 85–021 was cancelled on December 24, 1985. Comments received under CGD 85–021 were transferred to CGD 85–080 and were considered in the development of this proposed rulemaking.

Discussion of Proposed Regulations

A detailed discussion of the proposed regulations is contained below. Topics which affect the contents of more than one part of the regulations proposed to be revised, such as organization, authority, reference changes, and dynamically supported craft, are discussed first. Significant changes to each individual part in Subchapter T, and to Parts 170, 171, and 173 of Subchapter S, are then discussed along with the reasons for the changes. For the convenience of the reader, the proposed changes to each part are discussed in numerical order with the changes to Part 170 of Subchapter S discussed first and the proposed changes to Part 185 of Subchapter T discussed last.

Significant changes specifically discussed in this preamble may cause an increased or decreased burden on small passenger vessel owners or may result in administrative changes. Also discussed are revisions being proposed in order to reflect current policy, incorporate acceptable standards, and provide consistency with existing, comparable regulations in other subchapters.

Comments submitted under cancelled docket, CGD 085–021, and other recommendations received by the Commandant are also discussed in this section if they provided significant input for the development of this proposal.

Distribution and derivation tables are included at the end of this section. The distribution table shows where each section of the existing regulations would go in the revised regulations. The derivation table shows where each

section of the proposed regulations originates.

Organization

The basic organization of the proposed revised Subchapter T remains the same as the existing regulations. The part numbers and topics remain the same except for Parts 178 and 179. Parts 178 and 179 are reserved in the existing Subchapter T. Under the proposed regulations, Part 178 contains regulations on intact stability and seaworthiness. Part 179 discusses subdivision, damage stability, and watertight integrity. These parts had originally been dedicated to stability and subdivision prior to November 4, 1983.

Except for Part 180 (Lifesaving), the general order and topic of subparts, sections, and paragraphs in the proposed subchapter is basically unchanged from the existing subchapter. However, the outdated numbering system of the existing regulations is revised to correspond to the revised CFR numbering system. Each section (§) number includes the number of the part followed by a period and a sequential number.

Consolidation of Regulations

The Coast Guard is presently making an effort to consolidate vessel inspection requirements by subject matter into functional subchapters of 46 CFR. Each major topic would be addressed in a single subchapter applicable to almost all vessels. Existing functional subchapters include Subchapter F (Marine Engineering), Subchapter J (Electrical Engineering), and Subchapter S (Subdivision and Stability). The functional subchapters allow streamlining of regulations and elimination of redundant material. Other functional subchapters planned include 46 CFR Subchapters K (Fire Protection) and W (Lifesaving).

The Coast Guard is making an exception to the development of functional subchapters for Subchapter T. The Coast Guard is proposing that almost all the regulations applicable to small passenger vessels be contained within Subchapter T, as they were previously. Subchapter T is an exception for several reasons. The size of the small passenger vessel fleet, its ownership and management system, and the workload it generates for the Coast Guard necessitate the availability of a convenient and ready reference for use by both the public and Coast Guard personnel. Small passenger vessels are usually owned by small entities which are often without the financial capabilities or expertise to research and evaluate numerous functional subchapters. Additionally, the standards in the proposed regulations are designed to meet the specific needs of small passenger vessels. If small passenger vessels had to comply with functional subchapters, detailed regulations would have to be included in them on lifesaving equipment, fire protection, electrical equipment, etc., for small passenger vessels resulting in the functional subchapters being needlessly complicated for small passenger vessel owners and operators.

Consequently, the Coast Guard is proposing to move the stability and subdivision regulations affecting most small passenger vessels from Subchapter S to Subchapter T. The proposed changes to Subchapter S are included as a part of this rulemaking.

Additionally, under docket CGD 85–080A, the Coast Guard is proposing that the manning regulations affecting small passenger vessels be moved from 46 CFR Part 15 to Part 186 of Subchapter T, where they were located prior to October, 1987.

Notwithstanding the above, the Coast Guard still intends to require certain small passenger vessels to comply with portions of functional subchapters including stability, machinery, and electrical, as well as with certain Subchapter H regulations applicable to passenger vessels. Many small passenger vessels are under 100 gross tons only because of extensive tonnage reductions and exemptions. Inclusion of appropriate regulations to sufficiently cover such vessels in Subchapter T would require excessive space and would duplicate detailed, acceptable regulations contained in the functional subchapters. Additionally, these vessels will generally be the larger ones whose owners, managing operators, and builders have the expertise to use and comply with applicable portions of the functional subchapters. This proposal will include authority for the Commandant to determine when compliance with such additional regulations is required.

Authority Changes

Public Law 98–89 of August 26, 1983, codified numerous laws relating to vessels and seamen and enacted Subtitle II of Title 46, U.S. Code, into positive law. Its purpose was to revise and consolidate then existing laws without making substantive changes. This necessitates the updating of the regulations throughout Title 46 of the Code of Federal Regulations, including Subchapter T, which contain authority citations and references to the laws which were repealed by Pub. L. 98–89. Consequently, this proposal reflects the current authority citations and statutory references for the regulations proposed, including citation to 46 U.S.C. 3306 as the primary authority to regulate small passenger vessels.

Applicability

Proposed § 175.110 details the general applicability of Subchapter T. While the proposed rules apply to both new and existing small passenger vessels, an existing vessel may, with some exceptions, comply with the new regulations or the applicable construction, arrangement, and equipment regulations in effect prior to the effective date of the proposed regulations. Proposed § 175.400 defines a new vessel and an existing vessel.

A section in each part of the proposed regulations, except Parts 175 and 176, describes how that part applies to existing vessels. Where necessary, the basis of the application for certain new requirements to existing vessels is explained in the discussion of the proposed rules for each part in this preamble.

Breakpoints

The hazards and risks created by the operation of a small passenger vessel varies greatly depending on length, total passenger capacity, existence of overnight accommodations, number of decks, service, route, machinery, etc. Consequently, the Coast Guard has developed a graduated system of regulations with increasingly more stringent requirements for a vessel or operation which presents increasingly greater safety hazards or risks. Breakpoints were developed to determine when a vessel is subject to particular regulations. Most breakpoints were originally mandated by Congress, established to comply with the intent of law, or result from an international convention. Examples of breakpoints presently existing in Subchapter T include 26 feet, 65 feet, 49 passengers, and 150 passengers.

Because of familiarity, most of the existing breakpoints were retained in the proposed regulations. Any new requirements included in the proposed regulations were generally added within the framework of the existing breakpoints. This was done to limit the number of additional breakpoints and to minimize the complexity of the regulations. New breakpoints included in the proposed regulations include: "more than 400 passengers" and "with overnight accommodations." Although not used in existing Subchapter T, these breakpoints are used in other existing

regulations and Coast Guard policy. The application of the new breakpoints is explained in this preamble in the discussion of the regulations where the new breakpoints are used.

Dynamically Supported Craft

The proposed rules contain specific requirements for the design, construction, equipment, and operation of dynamically supported craft (DSC) which vary from those for conventional vessels. The proposed DSC regulations are primarily based on the International Maritime Organization's "Code of Safety for Dynamically Supported Craft" (IMO Code) adopted by IMO Resolution A.373(x) on November 14, 1977. The standards of other nations and classification societies, and standards developed by the Coast Guard were also considered during the drafting of these proposed changes to Subchapter T. The proposal would require the same design and operational standards for U.S. dynamically supported craft as is currently required for DSC of other countries. The sources of many of the proposed DSC regulations are listed in the Reference column of the Derivative Table in this preamble.

The Coast Guard participated in the development of the IMO Code, supports its philosophy, and has urged builders and designers of DSC to adopt portions of the IMO Code to show equivalent levels of safety to conventional vessel regulations. The IMO Code was intended to be self-contained so that compliance with it would ensure that a DSC would have the same level of safety as a vessel which complies with the International Convention for the Safety of Life at Sea. Additionally, the IMO Code urges governments to develop their own specific requirements regulating DSC based on the IMO Code itself.

While many of the requirements in the IMO Code are specific to DSC, others are general in nature and, in fact, are applicable to all small passenger vessels. Accordingly, many of the general requirements from the IMO Code are incorporated in these proposed regulations for application to all small passenger vessels. The methods, designs, or arrangements required by such general requirements are already common practice for most vessels. Hence, the cost of imposing them on all vessels is expected to be minimal. An example of a general requirement in the IMO Code which the Coast Guard proposes to be applied to all small passenger vessels is the requirement that exit doors be capable of being operated from inside and outside the space served (IMO Code 4.3.3).

Recognizing the unique design and operational characteristics of DSC, the proposed regulations specifically applicable to DSC are a compilation of safety tradeoffs designed to provide an equivalent level of safety to that of conventional displacement vessels. For example, requirements for structural fire protection are reduced while more attention is given to passenger evacuation time and primary lifesaving equipment.

Below is a general discussion of the reasons for and effects of primary regulations applicable to DSC.

1. *Vessels included as dynamically supported craft.* The definitions of DSC in proposed § 175.400(c) are adopted from the definitions used in the IMO Code. As proposed, a vessel is considered a DSC if it can be supported by other than hydrostatic forces as a conventional, displacement hull vessel is supported and if its maximum speed divided by the square root of the vessel's length times acceleration due to gravity is greater than or equal to 0.9 (that is where $v/\sqrt{gL}>0.9$). The Coast Guard may also consider using other means of defining a DSC which may better reflect the physical feature of a DSC such as a speed displacement coefficient as follows: $Fn\nabla=v/\sqrt{g\nabla^{1/3}}$. Air cushion vessels, hydrofoil vessels, and sidewall vessels are DSC. Some high speed catamarans and high speed monohull vessels may also meet the definition of DSC and, due to their size, speed, and dynamically supported operations, are subject to safety hazards comparable to the hazards to which air cushion vessels, hydrofoils, and side wall vessels are subject.

2. *Number of passengers.* The IMO Code is applicable to DSC carrying more than 12 but less than 450 passengers. The 12 passenger breakpoint was used in drafting the IMO Code to coincide with the definition of a passenger vessel in the Safety of Life at Sea Convention (SOLAS). However, specific DSC provisions of this proposal would apply to all DSC carrying more than 6 passengers. Under this proposal, a DSC may carry not more than 400 passengers. The 400 passenger limit, in contrast to the 450 passenger limit recommended by the IMO Code, is used to minimize breakpoints. Four hundred is presently used as a breakpoint for subdivision requirements.

3. *Fire protection.* Under this proposal, a DSC carrying not more than 150 passengers must comply with more fire protection requirements than a similar capacity conventional vessel. Included are requirements for structural fire protection bulkheads around machinery spaces and operating stations, reduced fire loads, prohibition of gasoline engines, and the protection of fuel injection pipes from hot oil. These requirements are designed to decrease the risk of fire on a DSC in recognition of the inability to operate a fixed firemain system when in the dynamically supported mode of operation.

The structural fire protection requirements for a DSC carrying more than 150 passengers would be less stringent than the requirements for a similar capacity conventional vessel. If a DSC were to comply with all the structural fire protection requirements for a conventional small passenger vessel carrying more than 150 passengers, the weight of the vessel would make operations in the dynamically supported mode infeasible. A DSC must therefore comply with other requirements, indicated below, to maintain a level of safety equivalent to that on a conventional small passenger vessel.

4. *Operations manual.* The proposal would require an operations manual on each DSC that explains and lists the operational restrictions of the DSC and the procedures by which these restrictions are to be complied with.

5. *Limited operating radius.* The proposal restricts the operation of a DSC to within 100 miles of shore, which is the limit also imposed by the IMO Code. Other factors will also limit the route and time of operations of a DSC. Environmental conditions limit the route of a DSC more than the route of a conventional vessel. For example, exceeding certain wind velocity, sea state, or speed yaw limits may result in unacceptable control characteristics, motions, vibration, structural loads, or structural fatigue. Maintenance services and emergency assistance must also be available in the operating area of a DSC.

6. *Failure mode and effects analysis.* Prior to initial certification of a DSC, an analysis would be required for each type of machinery and its associated control system. This analysis is necessary due to the high speed rotating machinery on DSC and the damage and injury which may occur on DSC if machinery fails while the vessel is in a dynamically supported mode. The analysis is intended to be performance oriented allowing the many unique machinery installations possible on a DSC to be suitably addressed. Presently, an analysis is normally generated by DSC designers. Therefore, this proposal is not expected to add additional costs to the purchase price of a DSC.

7. *Requirements for navigation and communications equipment.* The operating speed of DSC makes the proposed additional equipment for navigation, including radar and fathometers, necessary. An individual on watch on a DSC has less time to react to visual and audible input than on most other vessels and has greater need for electronic aids. As recommended by the IMO Code, most DSC would have to maintain a continuous radio watch in order to receive weather reports and emergency notices, and to maintain contact with other vessels while navigating in a congested area.

8. *Specific requirements for operating compartments.* Because of the speed of DSC and the importance of maintaining a proper attitude with respect to the surface of the water, the crew members on watch in the operating station of a DSC must not be distracted from their duties or be susceptible to injury under normal or emergency conditions. For these reasons, DSC designers must position the controls, instruments, seating, and communications equipment in the operating station to allow the crew members to properly discharge their responsibilities without undue difficulty.

9. *Requirements for means of escape.* This proposal contains specific requirements for means of escape and a minimum evacuation time on DSC. Some of the proposed requirements for exits are new to the regulations but follow commonly accepted practice. Because structural fire protection requirements on DSC are directly tied to passenger evacuation time, evacuation time must be determined in the design stage to permit evaluation of the structural fire protection boundaries during plan review.

10. *Requirements for passenger seating.* The proposed requirements include seats for all passengers, seatbelts, and adjustable chairs that must lock in position. These are necessary because of possible rough rides while traveling at high speeds in heavy weather and transitioning between the dynamically supported mode and the displacement mode.

11. *Bilge system.* A DSC may not be required to fully comply with the bilge pump and piping requirements contained in Subpart E of proposed Part 182 if the vessel has a high degree of subdivision and compartmentation.

12. *Stability.* This proposal requires that a DSC meet the stability standards applicable to other small passenger vessels, based on the vessel's route, length, number of passengers being carried, and number of decks, when operating in the displacement mode. Compliance with such standards for intact stability, damage stability, and subdivision is necessary for safety when the DSC is in the displacement mode of operation.

DSC must also have satisfactory stability when operating in the dynamically supported mode. Although a number of standards for DSC designs exist, there is no comprehensive standards suitable for all DSC designs. The British Government has standards for air cushion vehicles, the International Maritime Organization has standards for hydrofoil vessels, and the U.S. Navy has a design standard which is well suited for surface effect ships. Due to the diversity of designs and operating principles of DSC, and the limited experiences with DSC, it is necessary to evaluate their stability in the dynamically supported mode on an individual basis. This proposal allows the owner of a DSC to propose acceptable stability standards for operations in the dynamically supported mode based on acceptable standards of other organizations or service trials and individual calculations for the vessel.

Although an increase in the number of DSC is expected, there are not enough DSC operating as small passenger vessels in the United States today to reliably determine the cost the proposed regulations will have on owners. Comments are therefore specifically requested on the cost of the proposals involving DSC from persons that operate or build DSC or contemplate doing so.

Specific Provisions For Large Vessels

Three provisions in the present regulations give the OCMI and Commandant authority to impose regulations in excess of Subchapter T when appropriate. In the past few years, an increasing number of vessels have been built to which application of additional requirements under these provisions has been appropriate.

1. Existing § 175.05–1(b) authorizes the OCMI to require any vessel carrying more than 150 passengers to comply with requirements in Subchapter H (Passenger Vessels), Subchapter P (Manning), Subchapter F (Marine Engineering), and Subchapter J (Electrical) of this chapter, which the OCMI considers appropriate. The manning requirements, previously in Subchapter P, were recently revised and moved to Subchapter B.

2. Existing § 175.05–15 provides that the Commandant shall prescribe regulations, in addition to those in Subchapter T, if the Commandant determines that the gross tonnage of a vessel has been reduced below 100 gross tons by the extensive use of exemptions, reductions, or other devices in the tonnage formulation. If it were not for the extensive use of reductions and exemptions, such a vessel would have had to comply with Subchapter H which generally contains more stringent standards than Subchapter T.

3. Existing § 177.10–5 states that vessels which carry more than 150 passengers shall meet the structural fire protection requirements of Subchapter H (Passenger Vessels). However, the OCMI is given the discretion as to how to apply those structural fire protection requirements.

The OCMI is allowed discretion under §§ 175.05–1(b) and 177.10–5 because the OCMI is the most familiar with the local route of a vessel and associated hazards. However, many vessels today operate in more than one inspection zone. The discretion authorized to account for local differences now often results in significant inconsistencies among vessels operating in the same area. The inconsistencies occur because the vessels were certificated in different inspection zones where the OCMIs imposed different regulations. The Coast Guard has received numerous comments from small passenger vessel owners and managing operators complaining about such inconsistencies. To counter such inconsistencies, the Coast Guard has promulgated policy guidance to Coast Guard field units and the small passenger vessel industry on the application of §§ 175.05–1(b), 175.05–15, and 177.10–5. Policy guidance has been issued in the form of policy letters, the Coast Guard Marine Safety Manual, and Navigation and Vessel Inspection Circular (NVIC) 11–83, "Regulations for Very Large 46 CFR Subchapter T Vessels". The Coast Guard is proposing to incorporate much of this guidance into regulation thereby making the provisions of the guidance mandatory and reducing the discretion of the local OCMI. This will help reduce the serious problems with inconsistencies among inspection zones.

By incorporating this policy guidance into regulation, the Coast Guard would reduce but not eliminate the discretion of both the OCMI and Commandant in regulating small passenger vessels. Reducing the discretion is necessary to limit inconsistencies, but some discretion is still necessary to address unique situations.

NVIC 11–83

As stated in NVIC 11–83, the Coast Guard has found that designers of most small passenger vessels of more than 79 feet in length and of less than 100 gross tons used one or more of the special

provisions or interpretations of the basic gross tonnage formulation so that such vessels weigh less than 100 gross tons. In certain circumstances, the safety hazards to which such a "very large" small passenger vessel is subject may be offset by restrictions on the use of the vessel. Examples of when this may be true are when the vessel operates on restricted routes or when the vessel does not carry passengers in overnight accommodations. However, the Coast Guard has found that in most instances where a "very large" small passenger vessel has overnight accommodations for more than 50 passengers, increased safety hazards exist necessitating imposition of requirements in addition to those in Subchapter T, as authorized by existing § 175.05–15.

The Coast Guard published in NVIC 11–83 a list of regulations the Commandant often makes applicable to vessels of less than 100 gross tons, of more than 79 feet in length, and which have accommodations for more than 50 overnight passengers. The additional regulations are contained in Subchapter F (Marine Engineering), Subchapter H (Passenger Vessels), Subchapter J (Electrical Engineering), and Subchapter S (Subdivision and Stability) of Title 46 of the Code of Federal Regulations.

As part of the project to revise Subchapter T, the Coast Guard reviewed NVIC 11–83 and found that, after four years of use, the guidelines in the circular are useful and most of the listed regulations applicable. Consequently, the Coast Guard has incorporated the contents of NVIC 11–83 into the proposed rules as indicated below.

Most of the regulations listed in NVIC 11–83 are proposed in this notice to be applicable to vessels of more than 65 feet in length which have overnight accommodations for more than 49 passengers. The length criteria has been reduced from 79 feet used in NVIC 11–83 to 65 feet to minimize the number of breakpoints in the regulations. Sixty-five feet will remain the primary breakpoint routinely used to classify separate regulations for large and small vessels inspected under Subchapter T. It was a breakpoint initially established by law and upon which the existing T–S and T–L vessel determinations are made. The overnight accommodations criterion is reduced from more than 50 passengers to more than 49 passengers also to minimize the number of breakpoints. The existing Subchapter T uses more than 49 passengers in several places including for stability purposes and for prescribing the number of fire and bilge pumps. More than 50 passengers is not presently used as a breakpoint in regulation.

Some of the structural fire protection regulations of Subchapter H listed in NVIC 11–83 have been found to inadequately address the needs of the affected small passenger vessels, often resulting in excessive requirements. Consequently, new structural fire protection regulations are proposed in Subchapter T which would adequately cover these "very large" small passenger vessels with overnight accommodations for more than 49 passengers.

Alternative Standards for Small Vessels

The proposed regulations authorize specific alternative standards for vessels of not more than 65 feet in length and carrying not more than 12 passengers. Under the proposal such vessels may comply with certain standards and recommended practices published by the American Boat and Yacht Council (ABYC) and certain recreational boating safety regulations contained in 33 CFR Subchapter S, instead of fully complying with all standards in Subchapter T. Compliance with the cited ABYC and recreational boating safety regulations is not required by the proposed regulations but allowed as an alternative to other requirements. This proposal would facilitate the conversion of stock boats, primarily designed for recreational boating and charterboat service, to small passenger vessel service. The specific sections of the proposed rules discussing this alternative are §§ 182.130, and 183.130.

This proposal is based on a recommendation by the National Marine Manufacturers Association (NMMA) submitted to the Coast Guard under CGD 85–021. The NMMA is a trade association serving the recreational boating industry with approximately 380 boat manufacturers and 790 equipment and material manufacturers and vendors as members. The NMMA is concerned that, under existing Subchapter T, a vessel which carries only a limited number of passengers, i.e. not more than 12 passengers, must meet the same requirements as a vessel which may carry up to 49 passengers. Many of the vessels built by NMMA member manufacturers are used as crewed charterboats and for demise charters. These vessels may have accommodations for up to 12 passengers. The NMMA believes that many of the regulations in Subchapter T should not be applicable to vessels of the size and type of service of those built by their members. These vessels, often certified by the association as complying with strict standards, including ABYC standards and 33 CFR Subchapter S (Recreational Vessels) regulations, do not comply with many of the regulations in Subchapter T. However, the NMMA believes, because of their own strict standards, which in some areas are in excess of Subchapter T, and because of proven safe operation of the vessels built by their members, that those vessels are also safe to operate as small passenger vessels.

The NMMA proposed that Subchapter T be revised to contain a separate part with specific regulations for chartered vessels, used as bareboat or with crew, carrying not more than 12 passengers. Other parts of the subchapter would be dedicated to other vessel types. The recommended charter vessel regulations contained much of the present Subchapter T regulations and also incorporated certain ABYC standards and recreational vessel regulations.

The Coast Guard agrees that there are sufficient differences in some aspects of design, arrangement, and outfitting between a vessel carrying not more than 12 passengers and one carrying not more than 49 passengers to consider alternative requirements for vessels carrying not more than 12 passengers. However, the Coast Guard disagrees that special consideration should be given to charter vessels alone. The structural fire protection, outfitting of lifesaving and fire protection equipment, machinery and electrical arrangements, etc., on a small passenger vessel should not be based on the method by which a passenger arranges to use the vessel. Rather, such requirements must be based on the size of the vessel and its route. Additionally, the dedication of individual parts of Subchapter T to each type, or even a combination of types, of small passenger vessels would result in inefficient duplication.

Twelve passengers provides a satisfactory breakpoint for the establishment of alternative requirements for smaller vessels for a few reasons. As pointed out by the NMMA, vessels designed and used for charter service are usually equipped with accommodations for more than six passengers and usually up to no more than twelve passengers. Additionally, a small passenger vessel on an international voyage carrying more than twelve passengers is subject to the provisions of the International Convention for the Safety of Life at Sea (SOLAS).

The Coast Guard is also proposing that, in addition to the 12 passenger limitation, compliance with the alternative standards be allowed only for those vessels of not more than 65

feet in length. As the size of a vessel increases, the complexity and number of systems aboard the vessel increases. Vessels of more than 65 feet in length must fully comply with the regulations in Parts 182 and 183 to adequately protect the vessel from the hazards associated with the increased number and complexity of systems found on those vessels.

46 CFR Subchapter S—Subdivision and Stability

Subchapter S currently contains the subdivision and stability rules for all inspected vessels including small passenger vessels. This proposal moves most of the stability and seaworthiness requirements for small passenger vessels from Subchapter S into Subchapter T for the purpose of consolidating most regulations applicable to small passenger vessels into one inspection subchapter. The intact stability, subdivision, and damage stability standards for small passenger vessels that are more than 65 feet in length, carrying more than 150 passengers, carrying 12 or more passengers on an international voyage, or have more than one deck above the bulkhead deck exclusive of the pilot house would remain in Subchapter S to avoid duplication of the requirements which are also applicable to other inspected vessels. Additionally, the intact stability requirements for small passenger vessels propelled by sail would remain in Subchapter S.

The proposal also revises some of the existing regulations applicable to small passenger vessels, which would remain in Subchapter S, to reflect current Coast Guard policy. The proposed changes in Subchapter S only effect small passenger vessels and sailing school vessels, which are presently required to comply with the stability criteria for small passenger vessels propelled by sail. Other changes to existing regulations in Subchapter S will be addressed under another regulatory docket in the future.

Specific proposed changes to Subchapter S are discussed below in this section of the preamble. Changes to regulations proposed to be moved from Subchapter S to Subchapter T are discussed in the sections of this preamble entitled *Part 178—Intact Stability and Seaworthiness*, and *Part 179—Subdivision, Damage Stability, and Seaworthiness.*

Part 170—Stability Requirements for All Inspected Vessels

Section 170.001 Applicability. Proposed § 170.001 revises the applicability of Subchapter S so that only vessels contracted for on or after the effective date of the final rules under this docket would have to comply with the proposed changes to the subchapter. Vessels contracted before that date may be constructed in accordance with the regulations in effect on the date of the signing of the contract.

Section 170.055(h)(1) Definition of LBP. The proposed addition to existing § 170.055(h)(1) allows the Commanding Officer of the Coast Guard Marine Safety Center to include large underwater projections, such as bulbous bows, in the LBP (length between perpendicular) of a small passenger vessel. Inclusion of such underwater projections is necessary in determining watertight bulkhead spacing to better reflect the increased length of a vessel below the waterline and the actual possibility of damage below the waterline. Projections which contribute more than 2% of the underwater volume of the vessel are normally included in the LBP. Few small passenger vessels are expected to have such projections.

The title, "Commanding Officer, U.S. Coast Guard Marine Safety Center," is used in the proposed change to § 170.055(h)(1), other proposed revisions in Subchapter S, and in Parts 177, 178, and 179 of the proposed Subchapter T. When the Coast Guard Merchant Marine Technical Offices (mmt) were disestablished in 1986, the responsibilities of the Commander (mmt) were transferred to the Commanding Officer of the Coast Guard Marine Safety Center. However, the title, "Commander (mmt)," used in sections of Subchapter S which are not addressed in this proposal, will not be replaced with the title, "Commanding Officer, U.S. Coast Guard Marine Safety Office," at this time.

Section 170.090 Assumed weight and vertical center of gravity of each person. Proposed paragraphs (c) and (d) contain standard values to be used for the vertical center of gravity, weight, and location of passengers when performing loading calculations. This proposal incorporates Coast Guard policy which uses the average weight and center of gravity for a standing adult. The absence of such values in existing regulations results in inconsistencies among naval architects designing small passenger vessels.

Sections 170.105(b)(1) and 170.160(b)(1) Small vessel exclusion. The text of existing §§ 170.105(b)(1) and 170.160(b)(1) is deleted because the applicable requirements for the vessels addressed there have been placed in proposed Subchapter T.

Section 170.170 Inclusion of rails and canopies in the projected lateral area, and permitting the angle of heel to the deck edge on sailing vessels. The proposed changes to the definitions of certain parameters in the metacentric height formula in existing § 170.170 incorporate long-standing policy. That policy interprets the projected area of a small passenger vessel as including any areas of the vessel profile which can be fitted with canvas, such as railings or canopies. The current regulations do not address this point, although the Coast Guard has applied this interpretation as a practical matter. Railings and canopies must be included in the projected area because they are frequently blocked off with canvas dodgers or plastic wind screens to protect passengers.

Some small passenger vessels that are sailing vessels have had to limit the number of passengers they can carry because the angle of heel when applying the critera for metacentric height (GM) in existing § 170.170 is presently limited to one-half of the freeboard of a vessel including a sailing vessel. The existing criteria were initially developed for flush deck, mechanically powered vessels of ordinary proportions and form that carry cargo below the main deck. The proposed rules allow sailing vessels to be heeled up to the deck edge when applying the criteria in § 170.170 because a sailing vessel normally has a greater range of stability and a greater angle of downflooding than the type vessel for which the criteria were initially developed.

Section 170.173 (e) and (f) Alternative righting energy criteria. The proposed changes to existing § 170.173 allow, for the purpose of consistency, the same righting energy criteria that has been applied to vessels of unusual proportion and form in the past to be used as an alternative for small passenger vessels. A Coast Guard policy allowing the relaxation of requirements for vessels that operate only on protected waters is also formalized in this proposal. The proposed criteria have histories of satisfactory results and recognize that vessels can be safely operated on protected routes with less stability than is required for exposed routes. As these relaxations have been routinely allowed as a matter of policy, there will not be a monetary benefit from this regulation change.

Part 171—Special Rules Pertaining to Vessels Carrying Passengers

Subpart B "Small Vessels." Subpart B is proposed to be deleted. The simplified stability test for sailing vessels in § 171.035 of existing Subpart B does not consider the full range of stability that a sailing vessel has as it heels to the

downflooding or extremis angle. Even in protected and partially protected waters, there are squalls that arise quickly that can cause a sailing vessel to heel further than its deck edge. The Coast Guard believes that the sailing vessel criterion of existing § 171.055 or § 171.057 should be used to check all sailing vessels, regardless of their size, for their full range of stability.

The remainder of the provisions of Subpart B are contained in proposed Part 178 of Subchapter T.

Section 171.050(b) Rail crowding criteria. Proposed § 171.050(b) incorporates existing policy for vessels, used for excursions such as to view parades or for sightseeing, on which a large number of passengers may move to the railings for better viewing. The passenger criteria in existing § 170.050 considers passenger heeling but not to the extent considered by this proposal. Technical evaluation has shown that vessels affected by this proposal are capable of being loaded in manners not adequately addressed by current criteria. Compliance with the proposed requirement would probably result in the stability analysis required for certification taking an additional hour of time.

Sections 171.055 (d)(1), (d)(2), (e)(4)(ii), and (g)(1) Small passenger sailing vessels. The existing sailing vessel stability criteria have been criticized by many naval architects and sailors as being too stringent for small vessels because they make such vessels difficult to maneuver in light air. Similar to the sailing school vessel regulations, the proposed regulations in § 171.055 contain graphs so that the stability numerals can be reduced in exchange for higher angles of downflooding and vanishing stability. These proposed regulations do not impose any additional costs. Under the proposal small passenger vessels which are sailing vessels have the option of using the existing criteria or the new criteria. Some vessels may benefit from the proposed changes since they may be able to carry more sail or be more maneuverable using the proposed criteria.

Section 171.070 (e)(1) and (e)(2) Spacing of main watertight bulkheads. The proposed revisions to § 171.070 state that a small passenger vessel carrying more than 12 passengers on an international voyage must comply with the existing regulations indicated. This change incorporates requirements of the International Convention for Safety of Life at Sea, 1974, which small passenger vessels on an international voyage must comply with. Consequently, there are no costs resulting from this proposed change.

Section 171.076 Bottom damage requirements for longitudinally subdivided vessels. Proposed § 171.076 would allow longitudinal subdivision and double bottoms to be used in lieu of transverse bulkheads to meet Type II subdivision requirements. Under the current regulations, only transverse bulkheads are sufficient to meet the subdivision requirements. The proposed standard will provide designers with greater flexibility while maintaining the current level of safety against collisions and groundings.

Section 171.077 Damage stability requirements for multihull vessels. Proposed § 171.077 incorporates existing Coast Guard policy defining the extent of damage which a multihull vessel is assumed to incur for the purpose of determining subdivision requirements. It describes the analysis necessary to demonstrate equivalency to Type II subdivision. The existing regulations are not directly applicable to multihull vessels. This proposal does not impose any additional costs.

Section 171.080(d)(5) Range of stability and righting energy in damaged conditions. Proposed § 171.080(d)(5) establishes standards for approving a small passenger vessel's range of stability in the damaged condition which are similar to international standards. The existing requirement to have 2 inches of positive GM in the equilibrium condition does not ensure that small passenger vessels will survive in this condition. Analysis has shown that launching survival craft would capsize some vessels which meet the current criteria. The proposed criteria are less severe than those which are now being applied for an equilibrium angle of heel of greater than 7 degrees. Existing regulations allow the Commanding Officer of the Marine Safety Center to approve a vessel's range of stability in the damaged condition if the equilibrium angle of heel is greater than 7 degrees. Some Merchant Marine Technical Offices (mmt) previously imposed criteria more severe than those of the proposal when they determined that greater stability than was required by regulation was necessary on a vessel with an equilibrium angle of heel of 7 degrees or less.

An estimated 5% of the vessels subject to proposed § 171.080(d)(5) would have to have additional fixed ballast or bulkheads, beyond those required by existing regulations, to comply with the proposal. The additional bulkheads or ballast would cost approximately $5000 per vessel.

Sections 171.114, 171.119, 171.124, and 171.140 through 171.155. The requirements of existing §§ 171.114, 171.119, 171.124, and 171.140 through 171.155 are contained in Parts 178 and 179 of the proposed Subchapter T.

46 CFR Subchapter T

Part 175—General Provisions

Section 175.110 General applicability. This section revises existing §§ 175.05–1, 175.05–2, and 175.05–3 to better reflect 46 U.S.C. 3301, 3302, and 3303. The proposed applicability section does not include offshore supply vessels as does existing § 175.05–2. Offshore supply vessels will be specifically addressed in proposed rules being developed under a separate rulemaking (CGD 82–004, RIN 2110–AA77).

Section 175.200 Gross tonnage as criterion for requirements. This section remains basically intact as in existing § 175.05–15. It is included to inform builders and owners that the Commandant may prescribe regulations in addition to or in place of those in Subchapter T if the Commandant determines that a small passenger vessel, which has measured under 100 gross tons only because of extensive use of exemptions, reductions, or other devices in the gross tonnage formulation, may be subjected to safety hazards or risks that regulations in Subchapter T do not adequately address.

While these proposed rules eliminate much of the need for existing § 175.05–15, small passenger vessels may be built in the future of a size or passenger carrying capacity which creates a safety hazard or risk that is not adequately addressed by these proposed regulations.

Section 175.400 Definitions. Many definitions have been revised to make editorial changes and clarify the existing meaning of terms. Definitions of words such as "passenger" have been revised to agree with statute. Another significant change is that "sailing vessel" now includes both vessels which are propelled only by sail and auxiliary sail vessels. Auxiliary sail vessels are no longer separately defined since they are not treated differently by the regulations.

Several new definitions are added to define terms which exist in the present regulations, which are not presently defined, and which experience shows need to be defined. Such terms include

"dripproof", " gross tonnage", "watertight", and "weathertight".

Several new terms are added which are used in the proposed regulations but are not used in the existing regulations. An "operating station" is defined. This term is used in several new sections and replaces the terms pilothouse or bridge in existing sections since those existing terms are inappropriate for many small passenger vessels.

A "dynamically supported craft", along with several terms associated with dynamically supported craft, are defined. The definitions are adopted from the IMO "Code of Safety for Dynamically Supported Craft". Dynamically supported craft is also abbreviated "DSC".

Section 175.530 Alternative standards. This proposed section would allow owners or managing operators of certain conventional, displacement hull vessels to choose to comply with all the specific regulations for a dynamically supported craft (DSC). This alternative would allow conventional vessels carrying more than 150 but not more than 400 passengers to meet the reduced structural fire protection requirements of a DSC if the owner feels it is advantageous to do so. Hence, a DSC would not be given an economic advantage solely because of the regulations. However, an owner choosing to use this alternative would have to comply with all the applicable specific requirements for a DSC including additional plan and analysis submittal, operations manual, possible route restrictions, operating requirements, etc.

Part 176—Certificate of Inspection

Section 176.100 When required. This section revises existing §§ 176.01–1 and 176.01–3 by deleting the references to T–S and T–L vessels, and more importantly, by requiring that a vessel be in compliance with the terms of its Certificate of Inspection at all times in accordance with 46 U.S.C. 3313. Existing § 176.01–1 states that a T–S vessel need not comply with its COI when carrying not more than 6 passengers. Proposed § 176.114 would alleviate hardships caused by this legal restriction.

Section 176.103 Description. This section adds to the present § 176.01–5 by stating that the maximum number of passengers that a vessel may carry in overnight accommodation spaces will be indicated on its Certificate of Inspection (COI). This is necessary because many regulations are based on that number and because passengers should be aware of how many passengers a vessel is authorized to carry in overnight accommodation spaces.

Section 176.107 Period of validity. The Coast Guard proposes in this section that Certificates of Inspection be valid on all small passenger vessels, except those with SOLAS Certificates, for a period of three years.

46 U.S.C. 3307 requires that all small passenger vessels be inspected at least once every three years. However, existing Subpart 176.01 requires that vessels of more than 65 feet in length be inspected and reissued a COI every year as previously required by 46 U.S.C. 404. The three year inspection period is proposed to comply with the intent of Pub. L. 96–378, as now codified in 46 U.S.C. 3307, to provide more uniform requirements for all small passenger vessels, and to decrease the administrative burden on both industry and the Coast Guard. Under the proposed § 176.500, all vessels would be required to undergo a reinspection at yearly intervals during the term of a COI. Although the scope of a reinspection is the same as a triennial inspection for certification, the administrative work and the detail of a reinspection is somewhat less than that for a triennial inspection, and the total time involved is less.

Section 176.114 Special endorsement for carrying six or less passengers. This proposed section would allow the owner of a vessel to request to have the certificate of inspection endorsed to permit operation of the vessel in accordance with the laws and regulations applicable to an uninspected passenger vessel when carrying six or less passengers. The endorsement would require the vessel to be maintained and outfitted in accordance with the requirements of its COI except for manning and route. This would allow vessels to be operated competitively on the same route and with the same manning as uninspected vessels.

Section 176.600 Drydock and internal structural examination intervals. This rulemaking proposes to extend the interval between drydockings and internal structural examinations to two years for all vessels operating in salt water. Except for wooden vessels the existing fresh water drydocking interval of five years is retained for vessels operating in fresh water at least nine months in any twelve month period. The interval for wooden hull vessels would be two years regardless of the waters on which operated.

Presently the drydock interval for all vessels is 18 months except for the 5 year intervals prescribed for vessels in exclusive fresh water service and the 36 month intervals for partial fresh water service.

The proposed two year period will allow owners to easily schedule exams around the normally seasonal operations of most small passenger vessels. The present 18 month drydock interval for most vessels often forces owners and operators to take their vessels out of the water during the peak operating season. This interval also forces many owners to repeatedly request the 6 month drydock extensions that the OCMI is authorized to grant. The average annual savings for the whole small passenger vessel fleet due to this change, including the decreased drydock period for wooden hull boats in freshwater service, is approximately $293,000 based on an average drydocking cost of $500.00 per vessel. The interval for wooden hull vessels in fresh water service has been decreased because fresh water accelerates deterioration of wood due to rot.

A thorough discussion of drydock intervals is contained in the Notice of Proposed Rulemaking and the Interim Final Rule on Intervals for Drydocking on Inspected Vessels published in the **Federal Register** on May 30, 1986 (51 FR 19720) and October 23, 1987 (52 FR 39693), respectively. Because of the ongoing project to revise Subchapter T, the Interim Final Rule did not affect the drydock intervals for small passenger vessels. However, much of the discussion in the preambles for both the NPRM and the interim final rules are relevant to small passenger vessels.

Section 176.808 Lifesaving. This section contains proposed inspection requirements for lifesaving equipment for an inspection for certification. Other sections in Subpart H contain inspection requirements for other types of equipment and systems. Most of proposed Subpart H incorporates existing regulations. However, § 176.808(a)(1) requires that rescue boats and launching appliances be tested and inspected in accordance with Subchapter W. 46 CFR Subchapter W is a functional subchapter on lifesaving equipment being developed under Coast Guard Docket 84–069, RIN 2115–AB72. Additional information on Subchapter W is contained in the discussion of proposed Part 180 in this preamble.

Part 177—Construction and Arrangement

Subpart A—General Provisions. The proposed regulations in this part would not be applicable to existing vessels except by choice of an owner or for new construction or modifications made to an existing vessel. Repairs or replacements-in-kind would not have to be made in compliance with these

proposed requirements, but they would have to meet the requirements effective when the vessel was built. However, the owner could choose to meet these proposed requirements for repairs or replacements-in-kind.

Subpart B—Plans and Information Required. Proposed Subpart B lists more plans required to be submitted to the OCMI for approval than does existing Subpart 177.05 which it would replace. However, all the plans listed may not be applicable to a particular vessel. In most cases, the plans in the proposed list only amplify the plans which are currently required by existing regulations and are, in practice, already required by the OCMI or needed by the builder for construction of the vessel. Consequently, additional costs as a result of this part of the proposed rules is expected to be minimal.

Coast Guard policy requires that the Commanding Officer of the Coast Guard Marine Safety Center (MSC) approve all structural fire protection and general arrangement plans for small passenger vessels carrying more than 150 passengers in excursion service or more than 50 passengers on overnight voyages. This policy was recently instituted to minimize inconsistencies in the application of requirements to such vessels. To coincide with the breakpoints in this proposal, this policy will be revised to require the MSC to approve all structural fire protection and general arrangement plans for small passenger vessels carrying more than 150 passengers in excursion service or which have overnight accommodations for more than 49 passengers.

Proposed § 177.202(a) requires that all plans still be submitted to the OCMI. However, the OCMI will forward those plans to the MSC which are required by policy or regulation to be approved by the MSC, unless the OCMI allows an owner to submit plans directly to the MSC as authorized by proposed § 177.202(c). The proposed plan submittal requirements ensure that the OCMI is aware of the request for plan approval of a vessel the OCMI may certify, and that plans for a vessel the MSC may approve do not conflict with plans for the vessel the OCMI may approve.

Subpart C—Hull Structure. Proposed Subpart C would require compliance with the design requirements of industry standards which are incorporated by reference. The proposed subpart informs builders and owners of exactly what standards may be used for structural design. The 5 year rule in existing § 177.10–1 is retained except that only vessels of not more than 65 feet may be approved under it. Analysis techniques are now available which may be used to determine the adequacy of all hull designs. It is especially important to determine the adequacy of hull design of larger vessels because of their size, passengers carried, and service. Proposed § 177.340 is a result of the variety of structural analysis techniques which now allow an owner to use any satisfactory, systematic analysis to prove certain vessels are structurally adequate. Computers and modern analysis techniques, such as finite element methods, are now routinely used in naval architecture.

The proposal also contains specific structural design requirements for dynamically supported craft and sailing vessels.

Subpart D—Fire Protection. In developing Subpart D, including the structural fire protection bulkhead and deck requirements, the normal arrangements, uses, and fire risks of large excursion vessels were considered. Bulkhead and deck requirements were then developed considering the new fire protection equipment requirements being proposed in Part 181 including fixed gas fire extinguishing systems and detecting systems, and the proposed requirements for means of escape and muster and embarkation stations.

The existing requirements of Subchapter H, the structural fire protection requirements of the International Convention for the Safety of Life at Sea (1974), shoreside building codes, and the U.S. Coast Guard Navigation and Vessel Inspection Circular No. 6–80 (NVIC 6–80, "Guide to Structural Fire Protection Aboard Merchant Vessels") were considered in determining the most appropriate requirements for small passenger vessels.

This proposed subpart contains regulations designed to minimize or prevent the spread of fire through the reduction or elimination of combustible material, and the separation of fire sources from other parts of a vessel by fire boundaries. Existing § 177.10–5 contains the only structural fire protection regulations for small passenger vessels. Except for vessels carrying more than 150 passengers and fiber reinforced plastic vessels, the existing regulations are limited and only require that fire hazards be minimized insofar as is reasonable and practicable, hot exhausts be suitably insulated, and flammable liquid lockers be lined with metal. Vessels carrying more than 150 passengers must presently comply with the structural fire protection requirements of Subpart 72.05 of Subchapter H (Passenger Vessels) as determined to be applicable by the OCMI. In accordance with existing § 177.10–5(a–1), fiber reinforced plastic vessels, carrying not more than 150 passengers, must presently be constructed of fire retardant resins which meet MILSPEC R–21607.

Although the small passenger vessel fleet generally has a satisfactory fire safety record, especially in comparison with uninspected vessels, sufficient significant fires have occurred since the structural fire protection regulations in existing Subchapter T were promulgated to necessitate the regulations proposed in this subpart.

1. Coast Guard records show the following statistics involving fires on small passenger vessels from 1981 to 1986:

Total fire casualties—87;
Vessels which were a total loss due to fire—10 (11% of all fires);
Fires occurring in machinery spaces—50 (57% of all fires);
Fires on wood hull vessels–28 (32% of all fires);
Fires on FRP vessels–25 (28% of all fires).

2. As noted above, 32% of all fires occurred on wood hull vessels and 28% occurred on FRP vessels. Wood hull vessels also compose 32% of the small passenger vessel fleet, but FRP vessels compose only 20% of the fleet. The National Transportation Safety Board has made many recommendations involving fire protection as a result of casualties involving small passenger vessels. These have been examined, and many of their recommendations have been incorporated in the proposed regulations.

3. Subchapter H structural fire protection requirements were developed primarily for large passenger vessels and do not adequately address the fire risks involved with most small passenger vessels carrying more than 150 passengers which operate today. The number of such small passenger vessels has increased since initial promulgation of the Subchapter T.

Proposed § 177.400 contains general arrangement and outfitting requirements designed to reduce fire risks on all vessels. The proposed section combines applicable general arrangement and outfitting requirements located in existing § 177.10–5 and other sections of the existing Subchapter T, with several new requirements based on accepted industry standards.

Proposed § 177.400(e) is a new requirement for vapor barriers to cover insulation in spaces such as machinery spaces and paint lockers. Vapor barriers are considered necessary to maintain the fire resistance of insulation when the

insulation is exposed to combustible vapors or liquid which can permeate the insulation. Saturated insulation can not only add to the fire load of a space but can defeat the insulating qualities of the material. Similar provisions are contained in the 1974 International Convention for the Safety of Life at Sea, as amended.

Proposed § 177.400(g) limits paint thickness to 0.075 inches on interior surfaces of enclosed and partially enclosed spaces. Existing Subchapter T does not address paint thickness. However, §§ 72.05–15(e) and 72.05–45 of Subchapter H, which are applicable to small passenger vessels carrying more than 150 passenger and "very large" small passenger vessels with overnight accommodations for more than 49 passengers, limit paint to a reasonable thickness. Existing § 177.10–5 does require fire hazards to be minimized, which would also include excessive buildup of combustible paint. To minimize inconsistencies, it is necessary to limit the maximum paint thickness on interior surfaces to the allowed thickness of combustible veneer and approved Interior Finishes found in § 164.012 of 46 CFR Subchapter Q (Equipment, Construction, and Materials: Specifications and Approval).

Proposed § 177.400(h) requires that all mattresses comply with the Department of Commerce flammability standards for mattresses (16 CFR Part 1632, Subpart A) to minimize fire hazards. New mattresses that do not meet the proposed flammability standard can not legally be sold in the United States. A small passenger vessel owner purchasing a new mattress complying with the proposed requirement would save money compared to the current requirement in existing § 177.30–7(b), that mattresses be covered with a material which has been treated to give it fire resistant properties. Since the only mattresses for sale are those complying with the proposed rule, the owner will no longer have to buy a treated covering. Proposed 177.400(h) prohibits the use of polyurethane foam mattresses. Polyurethane foam has been found to give off highly toxic fumes when exposed to fire. Mattresses not made with polyurethane are readily available. The economic impact of this prohibition is expected to be minimal.

Proposed Subpart D also contains separate sections on structural fire protection addressing the fire risks associated with vessels of different sizes and types of operation. The proposed rule uses the breakpoints in existing Subchapter T and NVIC 11–83. One comment submitted under CGD 85–021 recommended that a graduated system be developed. This proposal contains a graduated system for structural fire protection regulations based on a vessel's passsenger capacity and the number of overnight accommodations for passengers. Structural fire protection requirements for dynamically supported craft are also proposed.

Proposed § 177.420 contains structural fire protection requirements for vessels carrying not more than 150 passengers or with overnight accommodations for not more than 49 passengers. It requires that when vessels are constructed of fiber reinforced plastic, including composite construction of fiber reinforced plastic and wood, the resin used must have a flame spread of not more than 100. The flame spread is determined by testing in accordance with the American Society of Testing Material (ASTM) Standard E–84, "Standard Test Method for Burning Characteristics of Building Material," or Underwriters Iaboratories, Inc. (UL) Standard 723, "Test for Surface Burning Characteristics of Building Materials". The test must be performed by an independent testing laboratory acceptable to the Coast Guard. Test standards ASTM E–84 and UL 723 are identical. Reference is made to both throughout as an aid to anyone trying to locate acceptable material, since a material may be tested and marked to either standard.

The allowable flame spread rating of 100 is equal to that of red oak. Requiring that resin have a spread of 100 would allow the use of readily available, industrial grade FRP resins which provide adequate fire retardation.

Proposed § 177.420(c) mandates a maximum flame spread for vertical and horizontal surfaces within 3 feet of cooking appliances. The proposal also prohibits draperies, curtains, or free hanging fabrics from being fitted within three feet of cooking appliances. This proposed regulation was adopted from industry standards NFPA 701 and ABYC Project A–3–70 and is consequently expected to have limited economic impact. Vessel owners are already required to minimize the amount of combustible material within close distance of cooking appliances under the mandate of existing § 177.10–5(a).

Proposed §§ 177.430 through 177.439 contain specific structural fire protection regulations for vessels carrying more than 150 passengers which do not have overnight accommodations for more than 49 passengers. This includes large daytime excursion or tour vessels, dinner cruise vessels, and ferries. Presently, such vessels must comply with structural fire protection regulations in Subchapter H (Passenger Vessels), as determined appropriate by the cognizant OCMI. A common complaint from the small passenger vessel industry is that the regulations in Subchapter H are applied inconsistently by various OCMIs, although vessels may be of common design and operate in the same area. With the incorporation of specific structural fire protection rules in Subchapter T, inconsistencies should decrease. Exceptions to the proposed rules would only be allowed when equivalencies are accepted by the Commandant under proposed § 175.540, or the OCMI determines under proposed § 175.550 that departure from specific requirements is necessary due to unusual circumstances or arrangements and that an equivalent level of safety is provided.

Proposed § 177.430 contains tables for use in determining the minimum structural fire protection requirements for bulkheads and decks on vessels carrying more than 150 passengers. These tables require certain bulkheads and decks in various types of spaces to have a minimum fire rating. The proposed tables are similar to tables in Subchapter H, however, the number of tables has been reduced from four to two in comparison to Subchapter H. The number of categories of spaces has also been reduced from 13 in Subchapter H to 11 in the proposed requirements. For instance, the three different categories of accommodation spaces in Subchapter H have been reduced to two categories of accommodation spaces in this proposal; high risk accommodation spaces (Type 4) and low risk accommodation space (Type 5). The difference between the spaces would be the amount of combustible material permitted in them; a low risk accommodation space would be permitted to have only one-half the amount of combustible materials permitted in a high risk accommodation space.

The proposed tables in § 177.430 (c) and (d) would permit a reduction in the structural fire protection boundary requirements between an adjoining accommodation space and a service space, compared to Subchapter H. This is in recognition of the decreased fire risk on vessels such as tour vessels and ferries, which normally have reduced amounts of combustible furnishings. This concept is employed in Subchapter H with graduated structural fire protection requirements for larger spaces and for spaces with more combustible material. The required standard of some decks and bulkheads

has been reduced in comparison with Subchapter H because of the requirements in Part 181 for detecting systems and for fixed gas fire extinguishing systems.

Proposed § 177.432(b) establishes a maximum fire load for individual high risk accommodation spaces, high risk service spaces, and control spaces of 6.0 lb/ft². The fire load is based on the weight of all combustible materials, furnishings, veneers, etc., in a space, except Coast Guard approved Interior Finishes and UL listed coatings and sheathings for use in fire resistant construction, as explained below.

Proposed § 177.432(c) allows ceiling and acoustical tiles, coatings and sheathings, and linings listed or approved by an independent testing laboratory, to be used instead of having to be Coast Guard approved as presently required by Subchapter H. However, these materials still must meet flame spread rating and smoke development rating requirements in accordance with specific American Society of Testing Materials (ASTM) or Underwriters Laboratories Inc. (UL) test standards. The Coast Guard has received numerous complaints from industry stating that Coast Guard approved materials are difficult to obtain and more costly than industrial grade material which provides an equivalent level of safety in comparison to approved materials. The Coast Guard agrees with these arguments and intends to allow use of acceptable and more readily available industrial grade material. The proposed requirements of paragraphs (c)(4) and (c)(5) of § 177.432 will further encourage use of material meeting the requirement of 46 CFR 164.012 or UL listed materials by not requiring these materials to be included in the fire load calculations of § 177.432(b).

However, the Coast Guard is proposing to retain the requirement that structural fire protection bulkhead material and all insulation be Coast Guard approved noncombustible material, because the proven fire rating of such materials is necessary to ensure that fire control boundaries are adequate.

Proposed § 177.432(g) contains standards for deck covering on vessels carrying more than 150 passengers. Previously, these vessels were required to comply with § 72.05–10 (n) through (q) of Subchapter H. Section 72.05–10 requires carpeting to be wool or equivalent to wool in fire-resistive qualities if used in stairways or corridors, and permits any carpet in a large public space with combustible furnishings (type 7 space). These proposed requirements would require carpet to be wool or have a flame spread rating of 75 or less and a smoke developed rating of 100 or less when tested to ASTM E–84 or UL 723. This incorporates current policy contained in NVIC 6–80 which allows carpet with a flame spread rating of 75 or less and a smoke developed rating of 100 or less, when tested to ASTM E–84 or UL 723, to be considered equivalent to wool in fire-resistive qualities. The proposed regulations would also allow carpets and rugs tested to ASTM E–648, "Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source," to be used if the critical radiant flux was not less than 0.45 watts per square centimeter and the specific optical density is not more than 450 when tested to ASTM E–662, "Test for Specific Optical Density of Smoke Generated by Solid Materials". These test methods are widely used in the carpet industry and it is expected that carpet meeting this proposal would be readily available to the small passenger vessel industry. These carpets and rugs would have to be included in the fire load calculations as combustible materials since they will in fact burn. Wooden deck coverings for dance floors would be permitted as a leveling or finishing material, if not more than ⅜ of an inch in thickness.

Proposed § 177.432(h) revises the existing regulations by requiring furniture and drapes to comply with certain industrial standards. By specifying minimum standards for furnishings, the requirements for bulkheads and decks can be reduced without compromising safety. Industry standards are used so that vessel builders and owners have a much wider range of products to choose from than if the more restrictive requirement in Subchapter H for fire resistant furnishings is applied. Proposed § 177.432(h) includes a requirement that upholstered furniture meet the National Fire Protection Association (NFPA) Standard 260B. This standard is currently recommended as the industry standard by the Business and Institutional Furniture Manufacturer's Association. The standard was originally developed by the National Bureau of Standards for the Consumer Product Safety Commission.

Proposed § 177.434 contains requirements for windows and air ports in fire control boundaries on vessels carrying more than 150 passengers. The requirements contained in Subchapter H would be applied to windows in interior fire control boundaries. The requirements would allow an owner to choose glass meeting the requirements in Subchapter H or glass that is listed by UL under the category "Fire Window Frames and Glazing Materials" in interior B-Class bulkheads. Windows, in fire control boundaries, adjacent to embarkation stations, muster stations, escape routes and survival craft would be required to have glass meeting an A-Class fire protection standard or be fitted with shutters of steel or equivalent material operable from outside the space. A-Class glass is a relatively new product which has passed the standard fire test for A-Class construction.

Subchapter H presently requires that windows opening onto embarkation stations be fitted with wire inserted glass. The similar use of wire inserted glass would not be allowed on small passenger vessels under this proposal because the Coast Guard believes that wire inserted glass does not provide adequate structural fire protection. Shutters or A-Class or equivalent windows are necessary to maintain the fire integrity of windows and air ports in way of embarkation or muster stations, escape routes, or survival craft.

Proposed § 177.436 contains requirements for decorative doors and doors in fire control bulkheads used on a vessel carrying more than 150 passengers. These requirements would limit a single door to not more than 48 inches in width and includes provisions for hose ports fitted in doors in fire control bulkheads. The proposed requirements would also establish standards for the installation of horizontal doors in decks. These requirements are based upon similar requirements contained in the National Fire Protection Association (NFPA) Standard 101 "Life Safety Code", and are considered necessary due to the number of such arrangements that have been permitted on small passenger vessels in the last several years. Many of the requirements of Subchapter H for doors in fire control bulkheads have been incorporated in these proposed regulations because doors, if not properly designed, constructed, installed, and fitted can degrade the fire resistive properties of fire control boundaries in which they are fitted.

Proposed § 177.438 contains requirements for stairs, stairtowers, elevators, and ladders on vessels carrying more than 150 passengers. The Coast Guard is concerned that not enough attention has been paid to passenger evacuation on small passenger vessels with high passenger densities. The minimum tread width in a stairway or stairtower is therefore being proposed to be increased to 36 inches. If the stairway will serve more than 120

passengers, the minimum stairway tread width would be increased by 0.3 inches for each additional passenger. This proposal incorporates concepts from NFPA 101. Many of the requirements contained in Subchapter H have been included here in different updated format.

Proposed § 177.439 contains new requirements for vessels carrying more than 150 passengers that have a balcony or other opening in a deck in a passenger accommodation space. These openings create a two level space with a large volume and large total combustible load. The proposal requires that for § 177.439 to be applicable, an opening that creates a two level space must be large enough so that a person on either level of the space can see a fire in any portion of the space. This would be achieved by allowing a partial deck to be limited to 80 percent of the available area. This would prevent decks, which have openings between them which are too small to allow complete viewing of one level from the other level of the space, from being considered balconies. Otherwise, decks with small opening between them might be labeled as balconies and thus circumvent the requirements for decks which are contained in proposed § 177.430. The concept of the proposed requirements was drawn from NFPA 101 which has stringent requirements for spaces containing balconies. Part of those requirements is the ability of persons in the space to be able to exit from the space without changing levels. This would help prevent passengers from becoming trapped on one level by a fire on the other level. Proposed § 177.500(f) requires that the number and dimensions of the means of escape be such that two-thirds of passengers on each level be able to exit from that level, if a stairway is contained within the space, otherwise the requirements for means of escape would not differ from other spaces.

Proposed § 177.440 would require that small passenger vessels with overnight accommodations for more than 49 passengers be required to meet the structural fire protection requirement of § 72.05 of Subchapter H. This is currently the guidance contained in NVIC 11–83.

Proposed § 177.450 requires dynamically supported craft to have fire control boundaries for machinery spaces, galleys, and control stations. The degree of protection would be dependent upon the evacuation time as determined by calculations in the design stage and confirmed by an evacuation demonstration after construction. Fire control boundaries would be required to be rated at three times the evacuation time plus seven minutes but not less than 30 minutes, which is the international standard contained in the IMO "Code of Safety for Dynamically Supported Craft."

The proposed regulations in Subpart D are based on the minimal structural fire protection regulations in existing Subchapter T, the detailed structural fire protection requirements in Subchapter H, established policy used to reasonably apply the existing regulations to small passenger vessels, and allowances for acceptable shoreside material. These four components of proposed Subpart D combine to provide an adequate level of safety which may be readily achieved by most small passenger vessels. Additionally, the proposed fire control boundaries and allowances for the use of shoreside materials are estimated to provide a savings of $12,000 in the construction of the average small passenger vessel carrying more than 150 passengers.

Subpart E—Escape and Muster Station Requirements. Proposed § 177.500 revises the requirements for means of escape from spaces in small passenger vessels primarily by clarifying the existing requirements in § 177.15–1. Present policy and requirements from the IMO Code for Dynamically Supported Craft and from 46 CFR Subchapter H, which should be applicable to all passenger vessels, are also incorporated into the proposed regulations. The incorporation of such requirements from Subchapter H and the IMO Code is not expected to require modifications to most small passenger vessel designs. Where modifications are necessary, added construction costs are expected to be small. The proposed regulations emphasize that regardless of the required minimum number or arrangement of means of escape from a space, the actual number and dimensions of means of escape must be adequate to allow rapid egress in an emergency for the maximum number of persons allowed to normally occupy a space.

Proposed § 177.500(h) specifies that the width of a door used as a means of escape from a space which is designed to hold more than 49 passengers must be at least 32 inches, and that the sum of the width of all doors for the space must be at least 0.3 inches times the number of passengers for which the space is designed. The existing regulations do not contain any requirements on the size of doors used as means of escape. The proposed door size was determined based on egress studies conducted by other organizations and the fact that persons evacuating a vessel in an emergency may be wearing lifejackets. The proposal is similar to requirements for emergency egress in the National Fire Protection Code Standard 101, "Life Safety Code." The National Transportation Safety Board recommended the establishment of criterion for the number of persons that can safely exit through a standard door following the collision of two small passenger vessels, JACK W and JAMEY DOWNEY, in Lower New York Bay on June 22, 1987. Both vessels serve as passenger ferries and carry 149 and 105 passengers respectively.

Since most existing vessels already comply with the proposed requirement for minimum door size, the proposal is expected to be of minimal cost to the small passenger vessel industry. However, the requirement is necessary to ensure that on all small passenger vessels which have enclosed spaces for a large number of persons, in which there is a significant chance of crowding and panic in an emergency, doors with a minimum width are provided for escape.

Proposed § 177.500(m) prohibits vertical ladders, except on vessels of not more than 65 feet in length, as a second means of escape from passenger accommodation spaces, because of the varying physical conditions of passengers; vertical ladders are allowed for crew accommodation spaces and work spaces. Proposed § 177.500(r) revises existing § 177.15–1(b)(2) by requiring only one means of escape from a space with maximum dimensions of less than 12 feet, under certain conditions, except that a vertical ladder and deck scuttle are prohibited from serving as the only means of escape from an accommodation space. Stairways would be allowed.

Proposed § 177.500(q) states that windows or windshields may be used as one of the two required means of escape only on vessels of not more than 65 feet in length, and only when a person, exiting directly through the opening, would step onto a deck, platform, etc., and would not have to go directly into the water. This incorporates present policy at many Coast Guard field units and expands on the requirement of existing § 177.15–1(a). The additional requirements are proposed to allow an escaping person to first be able to reach an open deck to evaluate the situation and take appropriate action before being forced into the water. However, on vessels without closed cabins, such as open boats, the only means of escape would be to go directly overboard. On vessels of more than 65 feet in length,

which often carry a large number of persons, there should be, and usually is, sufficient room to provide at least two normal, well marked exits which can be safely used by passengers of a variety of physical capabilities.

The small passenger vessel industry is expected to incur only minimal costs as a result of the proposed revision to existing § 177.15–1 because most vessels are already designed to comply with the proposed requirements.

Proposed § 177.510 is a new requirement for designated survival craft embarkation stations on vessels carrying more than 150 passengers or which have overnight accommodations for more than 49 passengers, and which are equipped with survival craft.

Proposed § 177.520 is a new requirement for muster stations on vessels carrying more than 150 passengers or with overnight accommodations for more than 49 people. Dependent upon the space available and the arrangement of the vessel, an embarkation station may also serve as a muster station. Muster stations must be protected by fire control boundaries in compliance with proposed § 177.430. A minimum area is required for muster stations so that passengers have sufficient room to don lifejackets without being overly crowded or panicking. The largest passenger accommodation space is excluded from being a muster station to ensure that the minimum area required for a muster station is available if a fire starts in the largest accommodation space. Vessels with main vertical zone bulkheads would be required to have muster stations in each zone so that a fire in one zone would not envelop all of the muster stations.

The proposed requirements for designated embarkation stations and muster stations is similar to requirements that the Coast Guard is considering including in the Notice of Proposed Rulemaking for Subchapter W for large passenger vessels. Designated muster stations and embarkation stations are necessary to organize the orderly abandonment of large numbers of persons in survival craft. Muster stations also ensure that passengers have a protected location to go to in the event of a fire and where they can wait for the fire to be extinguished, rescued, or embarkation into survival craft. The stations would have to be indicated on plans for new vessels required to be submitted by proposed § 177.202, in a station bill if required by proposed § 185.514, and in a passenger safety bill if required by proposed § 185.515. The locations of the stations would also have to be announced in the passenger safety orientation required by proposed § 185.506.

Subpart F—Ventilation. Proposed § 177.600(b) requires that all ventilation openings, for enclosed and partially enclosed spaces, must be located above the main deck and not penetrate the hull or bulwark of a vessel. This requirement is proposed because water from rough seas or even wakes can easily flood through vent openings located below the main deck of a vessel, such as vent openings which penetrate the hull of a vessel. Specific vent heights are not proposed due to the various arrangements, sizes, and routes of small passenger vessels. However, under proposed § 177.600(b) the OCMI may require closure devices to prevent the entry of water through any vent if the OCMI believes the location of the vent opening may subject the vessel to flooding. The OCMI may allow an owner to raise the height of the vent opening instead of requiring closure devices.

Most OCMIs presently require that vent openings be arranged to minimize flooding. Therefore, this proposal is not expected to impose any additional cost on small passenger vessel owners.

Proposed § 177.600(c) requires that all interior spaces have a positive means for denying air to a space in the event of a fire. This may necessitate a damper to isolate the supply or weathertight covers, and a means of securing the fans in forced ventilation systems that supply a particular space. This proposal incorporates the requirements of 46 CFR 72.05–50(i).

Proposed § 177.600 (e) and (f) revise the existing ventilation requirement for enclosed accommodation spaces to require that such spaces be mechanically ventilated unless it can be specifically shown that a natural system will provide adequate ventilation in all ordinary weather conditions. However, all enclosed passenger spaces where smoking is allowed must be mechanically ventilated.

Proposed § 177.610 establishes ventilation duct requirements for vessels carrying more than 150 passengers. These requirements are designed to limit the passage of flame, smoke, and hot gases throughout the vessel's ventilated spaces, which minimizes the spread of the fire and allows more time to fight the fire before the vessel has to be abandoned. Also, by limiting the spread of flame, smoke, and hot gases, there is less risk to the health of the passengers and crew. The ventilation duct requirements are based on those in Subchapter H and in NVIC 6–80 ("Guide to Structural Fire Protection Aboard Merchant Vessels"), suitably modified for small passenger vessels.

Subpart G—Crew accommodations. Proposed § 177.700 contains more specific guidance than existing § 177.25–1 does on when overnight accommodations for crew members must be provided. As is present Coast Guard policy, the proposal requires that satisfactory overnight accommodations must be provided whenever a vessel is authorized to operate more than 12 hours out of a 24 hour period without a crew change.

Subpart H—Passenger Accommodations. Proposed § 177.800 contains specific requirements for all passenger accommodation spaces on a vessel. Proposed § 177.810 contains specific requirements for overnight accommodation spaces for passengers. Passenger overnight accommodation spaces include cabins, staterooms, berthing areas, or other spaces, containing beds or bunks allowing passengers to rest for extended periods. They may include single person staterooms or large, multibunk berthing areas. Overnight accommodation spaces do not include spaces which contain only seats, including reclining seats, even if passengers may remain in them overnight. The existing regulations only contain specific requirements, other than for seat arrangements, for passenger lounge areas including overnight and day accommodations located below the main deck. However, due to the size, arrangement, and passenger capacity of most passenger spaces, the requirements applicable to spaces below the main deck should generally also be applicable to passenger spaces on or above the main deck. Many OCMIs presently apply most of the requirements of existing § 177.30–7 to all passenger spaces, and most vessels already comply with these requirements throughout the vessel. Consequently, the expected cost of this change is minimal.

Proposed § 177.840 contains the toilet requirements in existing § 177.30–5, except that it allows the use of portable toilet facilities only on vessels of not more than 65 feet in length carrying not more than 49 passengers.

Subpart I—Rails and Guards. Proposed § 177.900 contains the same requirements as existing § 177.35–1 in regards to minimum rail height and locations with one notable exception. The minimum required rail height on ferries and vessels engaged in excursion operations is proposed to be reduced to 39½ inches. This is to align the small passenger vessel requirement with that of the 1974 SOLAS Convention which

recognizes 39½ inches as the minimum height normally necessary for safety. Owners may experience a slight cost saving due to this proposed change. The proposed regulations on rails also contains specific guidance on the application of the minimum rail height and location requirements and incorporates existing Coast Guard policy. Excursion trips are defined to include, but not be limited to, sightseeing trips, dinner and party cruises, and overnight cruises. Rails are required to be higher on ferries and excursion vessels because of the large number of passengers, greater percentage of children, and greater percentage of persons not familiar with boats, who are carried on such vessels.

The proposed rail regulations delete the requirement for evenly spaced rails since even spacing has been determined not to be a major safety consideration. However, the 12 inch maximum spacing in the existing regulations is retained.

Proposed § 177.900(a) contains a new performance standard, which incorporates existing policy in the Coast Guard Marine Safety Manual, requiring that rails be able to withstand the cumulative load of all persons who may rely on them for support. Additionally, a requirement for stanchions located at a maximum distance apart of 7 feet is proposed.

To avoid confusion, the proposed rules do not use the term "sport fishing," used in existing § 177.35–1(d). Instead, the proposed rules allow 30 inch rails to be installed in way of a person fishing from a fixed seat who is secured in the seat by a restraining device. The reduced rail height is only allowed in the vicinity of the fixed fishing seat. Higher rails, lifelines, etc., would be required to be put above the 30 inch rail when a person is not fishing from the fixed seat.

Proposed § 177.900(d) revises existing § 177.35–1(e) by stating that, on a vessel where persons or cargo are routinely discharged in a seaway, the OCMI may allow alternatives to the required rails only where such rails would actually interfere with loading and unloading. Gates or removable rails, chains, etc., must be provided for discharge operations whenever possible. Vessels affected by this proposal may include dive boats and pilot boats.

Proposed Subpart J. Proposed Subpart J contains performance standards for windows not presently existing in Subchapter T. The proposed rules require all glazing material to be made of material, such as safety glass, which will not break into dangerous fragments. These new requirements incorporate current Coast Guard policy, provisions of the IMO Code for Dynamically Supported Craft, and shoreside building requirements. As this type of glass is generally used by the makers of marine windows and portlights and included in the specifications for larger vessels, the cost of the proposed requirement will be negligible. Windows and portholes must also be capable of withstanding the maximum load to which they may be subjected. Window design pressures may be determined from a recognized standard, such as ISO Standard 3903–1977, or they may be certified by the window manufacturer. Because of the necessity for good visibility, specific requirements are included for visibility from windows at the operating station. A minimum light transmission rating is also proposed to help ensure adequate visibility and control unlimited use of tinted windows.

Part 178—Intact Stability and Seaworthiness

Part 178 is a new part containing intact stability and seaworthiness requirements for small passenger vessels. This proposal moves most of the stability and seaworthiness requirements for small passenger vessels, which are presently in 46 CFR Subchapter S, into Subchapter T for the purpose of consolidating most regulations applicable to small passenger vessels in one inspection subchapter. The intact stability standards for small passenger vessels that are more than 65 feet in length, carrying more than 150 passengers, carrying 12 or more passengers on an international voyage, have more than one deck above the bulkhead deck, exclusive of the pilot house, or which are sailing vessels, would remain in 46 CFR Subchapter S to avoid duplication of the requirements which are also applicable to vessels regulated by other subchapters.

In addition to moving regulations that pertain only to small passenger vessels from Subchapter S, the proposed regulations revise some of the existing regulations applicable to small passenger vessels to reflect current Coast Guard policy and to correct some problems with the application of existing regulations.

Section 178.320 Intact stability requirements. Proposed §§ 178.310 and 178.320 require that a simplified proof test be performed on all small passenger vessels, except those which must undergo a stability test as specified in Subchapter S, unless specifically dispensed with by the OCMI. Existing § 171.030 requires that a simplified stability proof test need only be conducted on vessels of not more than 65 feet in length carrying more than 49 passengers or on any other vessel whose stability is questioned by the OCMI. However, as allowed by existing § 171.030(a)(2), many OCMIs now require all small passenger vessels to demonstrate that they have sufficient stability, either by the simplified proof test or by inclining and subsequent calculations. The proposed change emphasizes that the stability of all small passenger vessels should be evaluated, not just those carrying more than 49 passengers or of more than 65 feet in length, due to the variety of hull forms and outfitting found on small passenger vessels today. The estimated cost of a simplified stability proof test is approximately $200 per vessel.

Section 178.340 Intact stability standards for pontoon vessels in protected waters. Proposed § 178.340 incorporates policy currently in the Coast Guard Marine Safety Manual which provides a simplified means of testing the intact stability of pontoon vessels of not more than 65 feet in length, carrying not more than 150 passengers, and operating in protected waters. The simplified test in existing regulations is only applicable to monohull vessels.

Section 178.450 Calculation of Drainage Area. Proposed § 178.450 revises the existing drainage requirements for both well deck and cockpit vessels contained in 46 CFR Subchapter S and contains a required drainage area formula that accounts for:

(1) The volume susceptible to entraining water;

(2) The height of the deck above the waterline;

(3) The operating area; and

(4) The area of the weathertight superstructure.

The proposed regulation still distinguishes between cockpit vessels that operate on protected or partially protected waters and other vessels. The cockpit vessel on protected waters is considered immune to taking "green water" over the side and needs only to be able to drain rain and spray. However, because a vessel on partially protected waters may periodically experience sea conditions similar to those found on exposed waters, comments are requested on the possible need for a cockpit vessel on partially protected waters to have the same drainage area proposed for a vessel on exposed waters.

There have been many complaints from small passenger vessel owners and architects over the years about the existing drainage area requirements for cockpit and well deck vessels. The

existing drainage area requirement for well deck vessels, being directly proportional to the length and height of the bulwark, fails to take into account the deck volume susceptible to entraining water or the effect of deck houses on free surface area. The difference between a well deck vessel and a cockpit vessel in the existing rules can be a matter of inches of deck length and minimal in the volume susceptible to entraining water, yet the freeing port/scupper areas required for each type of vessel can be several hundred percent different.

The cost of this proposed drainage area requirement change is considered negligible because the amount of drainage required can be incorporated into the design and construction of a new vessel. The benefit of the proposed change is that deck drainage will more accurately reflect the amount of water that may be entrained on a vessel.

Section 178.510 Fixed ballast. Proposed § 178.510 contains requirements concerning ballast installed to comply with stability regulations. The proposal incorporates the requirements of § 170.235 of Subchapter S and includes a new requirement that solid ballast installed forward of the collision bulkhead be installed and arranged to prevent damage to the collision bulkhead during a collision.

The proposal requires that ballast, installed to meet stability requirements, be both solid and fixed, since such ballast provides a permanent and verifiable quantity of ballast. The stability of a vessel can be more easily and safely maintained with solid fixed ballast than with liquid ballast. However, solid ballast can pose a danger if it is stowed forward of the collision bulkhead in a manner that may cause the collision bulkhead to fail in a collision, an example of which would be concrete forming a solid structural connection between the stem of a vessel and its collision bulkhead.

Part 179–Subdivision, Damage Stability, and Watertight Integrity

Part 179 is a new part containing proposed subdivision, damage stability, and watertight integrity requirements for small passenger vessels. This proposed rule moves the applicable existing subdivision, damage stability, and watertight integrity requirements of 46 CFR Subchapter S into Subchapter T.

Sections 179.210 and 179.212 Watertight bulkhead requirements. Proposed §§ 179.210 and 179.212 contain the existing requirements for watertight bulkheads on small passenger vessels. Due to the inherent hazards of operating a vessel, and the need to protect passengers, crew, cargo, and the vessel itself, all vessels need some degree of flooding protection. Consideration was given to requiring collision bulkheads on vessels not presently required to have them and to increasing subdivision requirements. Due to the relatively high cost of providing a one compartment standard of subdivision or sufficient foam flotation on vessels of not more than 65 feet in length and carrying not more than 49 passengers, the Coast Guard has not included any increase in the subdivision requirements in the proposed rules. Available casualty history does not appear to justify the increase in cost. However, comments are requested on the possibility of extending the watertight bulkhead and subdivision requirements to vessels not presently required to comply with such requirements.

Section 179.310(b)(1). Proposed § 179.310(b)(1) contains a specific requirement for the location of a collision bulkhead with a bulbous bow which comprises more than 2 percent of the underwater volume of the vessel. Two percent of the underwater volume is being proposed as a reasonable limit, to exclude small projections which do not contribute significantly to the overall buoyancy. This proposal also revises the definition of length for the purposes of Part 179 so that large underwater projections forward of the forward perpendicular or aft of the aft perpendicular are considered in locating watertight bulkheads. These proposed changes consider the effects that underwater projections such as bulbous bows have on damage stability. The current regulations do not address such projections.

Section 179.330 Watertight doors. Proposed § 179.330 expands the existing regulations in 46 CFR Subchapter S to clarify the Coast Guard's policy on watertight doors, particularly as to allowable location. This proposed section formalizes policy which allows watertight doors in machinery space bulkheads where it can be reasonably assumed that such doors will be kept closed, and which requires special approval by the Commandant in non-machinery spacebulkheads. Watertight doors in subdivision bulkheads present a particular hazard on small passenger vessels because of the relatively small size of compartments and the rapidity with which they can flood. The noise and heat associated with machinery provides a natural incentive to keep doors closed. This proposed regulation imposes no additional costs on small passenger vessels.

Section 179.340 Trunks. Proposed § 179.340 incorporates requirements for trunks on large passenger vessels which are currently applied to vessels of more than 65 feet in length or carrying more than 150 passengers. For the purposes of proposed Part 179, a trunk is a large, enclosed passageway through any deck or bulkhead of a vessel, which would include passageways referred to as tunnels on certain vessels. This proposed regulation is necessary because some existing small passenger vessels have trunks and the number of small passenger vessels built with trunks is expected to increase.

Section 179.360 Watertight integrity. Proposed § 179.360 expands the existing regulations in 46 CFR Subchapter S to clarify the requirements for weathertight and watertight doors and hatches, particularly to prevent entrapping water within enclosed superstructures. The proposed regulation does not impose any additional cost and will, by defining which openings must be watertight or weathertight, lead to fewer misconceptions about what is required for watertight integrity.

The Coast Guard has received general comments on the tripping hazard posed by the coaming required by § 171.124 of Subchapter S and which is included in proposed § 179.360. The coamings are required to prevent water on a deck from flowing into the superstructure or hull of a vessel, where the water would cause a reduction in stability. Even vessels operating on protected waters can have water on deck from the wake of other vessels.

The Coast Guard is considering revising the coaming requirement. Specific comments are requested on the coaming requirement and information on accidents caused by coamings. Comments should also address the risk of downflooding on a vessel and if the elimination or reduction in height of required coamings would effect that risk.

Part 180–Lifesaving Appliances and Arrangements

Organization of Part 180. The lifesaving equipment requirements are proposed as a completely revised Part 180. The structure of proposed Part 180 is designed to parallel a new functional subchapter being developed under Coast Guard Docket 84–069, 46 CFR Subchapter W (Part 199). Subchapter W will contain lifesaving equipment requirements for large inspected vessels. This parallel structure will allow for easy comparison of the requirements for both types of vessels. For example, the requirements for Emergency Position

Indicating Radio Beacons (EPIRBs) are in § 180.64 of this proposal. EPIRB requirements in Subchapter W will be in proposed § 199.64. Requirements for lifejackets are in § 180.71 of this proposal, and will be in proposed § 199.71 of Subchapter W.

The proposed regulations contain references to Subchapter W in several places including §§ 176.808, 180.10, 180.150, 180.175(g), and 180.210(c). Requirements similar to those intended to be published in the Notice of Proposed Rulemaking for Subchapter W are presently contained in Part 75 (Lifesaving Equipment) of Subchapter H. Subchapter H contains the regulations for vessels of at least 100 gross tons carrying passengers. If the final rules for Subchapter W are not published prior to publication of the final rules under this docket, the Coast Guard intends to replace the references to Subchapter W contained in this proposal with references to Subchapter H as an interim measure.

Section 180.10 "Very large" small passenger vessels with overnight accommodations for more than 49 passengers and small passenger vessels on international voyages. As in other parts proposed in this notice, small passenger vessels on international voyages and "very large" small passenger vessels with overnight accommodations for more than 49 passengers would have to meet the requirements for large passenger vessels. These requirements are presently located in Subchapter H and will be proposed for inclusion in Subchapter W. The International Convention on the Safety of Life at Sea, 1974, (SOLAS) mandates the increased standards for small passenger vessels on international voyages. Small passenger vessels on international voyages must presently comply with SOLAS lifesaving equipment regulations which parallel the regulations of Subchapter H.

Even though "very large" small passenger vessels with overnight accommodations for more than 49 passengers may measure at a gross tonnage of less than 100, they are not of the type initially contemplated as being regulated under Subchapter T. They are more closely related to the vessels and services covered under proposed Subchapter W. This proposed regulation is not a significant change since "very large" small passenger vessels with overnight accommodations for more than 50 passengers are usually required to comply with Subchapter H, in accordance with NVIC 11–83.

Section 180.15 Applicability to existing vessels. The proposed regulations in Part 180, except for §§ 180.78(a)(4) and 180.210, would apply to all existing small passenger vessels. Existing vessels must comply with the following new requirements for lifesaving equipment when applicable for the size and route of the vessel: Inflatable survival craft, survival craft stowage and launching requirements, satellite EPIRBs (including on vessels operating within 20 miles of a harbor of safe refuge), and the elimination of the use of combination flares. Proposed § 180.15 contains phase-in periods for these new requirements applicable to existing vessels.

Five years after the effective date of the rules, vessels older than 10 years on that date would have to comply with the new survival craft requirements. Vessels between 5 and 10 years old would have to comply by the time the vessel reaches the tenth anniversary of its keel-laying date. The purpose of this phase-in period is to spread the demand for new liferafts and inflatable buoyant apparatus over several years, so that manufacturers can produce the equipment without over-burdening their production capabilities. The phase-in plan also results in older vessels being equipped with improved lifesaving equipment first. An informal analysis of casualties indicates that older small passenger vessels are more likely to be involved in casualties than newer vessels.

Section 180.64 EPIRBs. For vessels in ocean or coastwise route, the regulations proposed in § 180.64 would require the use of Federal Communications Commission (FCC) Type Accepted float-free EPIRBs operating on the dedicated satellite frequency of 406.025 MHz. The present regulations require Class A EPIRBs operating on 121.5/243 MHz, and allow an exemption for vessels operating within 20 miles of a harbor of safe refuge. The elimination of the 20 mile exemption is proposed since rapid alerting and location of vessels in distress in this region is as necessary as it is further out at sea. The 406 MHz satellite EPIRB not only provides improved alerting and locating over conventional EPIRBs operating on 121.5/243 MHz, but also avoids most of the false alarm problems on those frequencies. Final rules permitting the manufacture and sale of such beacons have been developed by the Federal Communications Commission (FCC) and are expected to be published soon in the **Federal Register**. These beacons should be readily available in 1989. The approximate cost of such beacons is presently $1450.00. However, as availability and demand increases the price is expected to decrease.

The JOAN LaRIE III casualty is an example of why the exemption for vessels operating within 20 miles of a harbor of safe refuge is being proposed for elimination. The JOAN LaRIE III was approximately 8.5 nautical miles offshore when it suddenly capsized. No distress message was sent over the VHF–FM radiotelephone and there was apparently no EPIRB on board. A rescue operation was started immediately only because the sudden disappearance of the vessel was noted on the radar of a Brazilian freighter which happened to be close by and investigated. Had it not been for the proximity of the freighter, it might have been several more hours before a search and rescue operation was started. Other casualties, including the COMET casualty, also indicate the need for EPIRBs on all coastwise and ocean route vessels. The survivors from the COMET were found by a passing yacht 4½ hours after the vessel sank. Both the NTSB and a Coast Guard Marine Board of Investigation have recommended elimination of the exemption to the EPIRB requirement for vessels operating within 20 miles of a harbor of safe refuge.

The Coast Guard recognizes that many owners and operators have 121.5/243 MHz EPIRBs in compliance with the present regulations, and that this equipment has a long service life. Therefore, proposed § 180.15(c) would allow 121.5/243 MHz Class A (float-free) EPIRBs that are installed on or before the effective date of the final rules to be carried for about 6 years. This Class A EPIRB phase-out period is identical to the phase-out period included in the final rule, published in the **Federal Register** of August 17, 1988 (53 FR 31004), for the installation of EPIRBs on fishing vessels, fish processing, and fish tender vessels. The Notice of Proposed Rulemaking for the installation of EPIRBs on fishing vessels, fish processing, and fish tender vessels, published in the **Federal Register** of September 3, 1987 (52 FR 33448), proposed a phase-out period of 10 years; however comments supported a shorter period.

Although conventional 121.5/243 MHz Class A EPIRBs would be acceptable for the proposed 6 year phase-out period, there are a number of problems with these EPIRBs. The 121.5/243 MHz system has a serious false alarm problem. Although "COSPAS/SARSAT" search and rescue satellites are designed to receive 121.5 MHz signals, 121.5/243 MHz EPIRBs are not designed as "satellite EPIRBs" and their coverage

area and alert and locate ability is significantly inferior to that of the 406 MHz satellite EPIRB. Comments are requested as to whether a shorter phase-in period should be required for small passenger vessels.

Section 180.68 Distress flares. Proposed § 180.68 contains some changes to the present requirements for flares in § 180.35.

As in the existing regulations, small passenger vessels on ocean, coastwise, or Great Lakes routes would be required to carry 12 distress flares. However, the combination flare and smoke signals allowed by existing § 180.35–5(a)(2), and approved under 46 CFR Subpart 160.023, would no longer be acceptable to meet the requirements for distress flares. Existing combination signals could continue to be used until their expiration dates have been passed. These signals have significantly lower flare and smoke emission time than the other flares listed in proposed § 180.68. In addition, they have been found to eject hot slag as they burn, which can be a minor hazard. Hand flares approved under 46 CFR Subpart 160.021 must pass a test in which they are burned over liquid heptane without igniting the heptane. Flares approved using this test have a reduced likelihood of starting a fire due to hot dripping slag.

A small passenger vessel on an ocean or coastwise route would be required to have six hand held red flares and six orange smoke signals, as allowed by the existing regulations, or 12 rocket parachute flares as required on a passenger vessel an ocean or coastwise route by existing Subchapter H and as will be proposed in Subchapter W. A small passenger vessel on a Great Lakes route would be required to have six hand held red flares and six orange smoke signals, 12 rocket parachute flares, or 12 hand held red flares as required on a passenger vessel on a Great Lakes route by existing Subchapter H and as will be proposed in Subchapter W.

The Coast Guard received one comment under CGD 021–85 that vessels on river routes should not be required to carry flares. Vessels on river routes often operate in unpopulated areas where flares may be needed to signal for help in an emergency. However, under this proposal, small passenger vessels on lakes, bays, and sounds or rivers would only be required to have six flares because of the increased chance of such vessels being spotted from shore within a short time period and because they are more accessible to rescue facilities compared to vessels on coastwise or ocean routes.

The proposed changes would result in a minor cost saving to vessels on lakes, bays, and sounds and river routes due to the decreased number of flares required.

Section 180.71 Lifejackets. In this proposal, the commonly used term "lifejacket" replaces the term "life preserver" used in existing Subchapter T. The term "lifejacket" will also be used in Subchapter W. The Coast Guard intends to change the references to life preservers in 46 CFR Subchapter Q, Subparts 160.002, 160.005, and 160.055, to life jackets.

Proposed § 180.71(b) would require all vessels carrying passengers to carry a number of child-size lifejackets equal to at least 10% of the number of passengers permitted on board, or such greater number as necessary to provide a lifejacket for each person smaller than the lower size limit of the adult lifejackets. This proposed regulation would state the requirement for child-size life preservers more clearly than in existing Subchapter T. Proposed § 180.71(b) would permit vessels to omit the child-size lifejackets if the vessel does not carry persons smaller than the lower size limit of the adult lifejackets. This proposal means that child-size lifejackets well in excess of 10% of the total number of passengers permitted on board, may be required for a vessel that carries a large number of children on infrequent occasions, or for a vessel that does not normally monitor the number of children carried.

The proposed regulation is a clarification of present requirements for small passenger vessels. Present regulations in § 180.25–5(a) require "an approved adult type life preserver for each person carried. In addition, * * * a number of approved life preservers suitable for children equal to at least 10 percent of the total number of persons carried". The Coast Guard interprets this regulation as requiring a child-size life preserver for each child carried, even if more than 10% of the persons on board are children.

Adult lifejackets are not necessarily suitable for any and all children. If the lifejacket is too big for a child, it may come off easily, it may unacceptably hinder the ability of the child to climb steps or otherwise maneuver, or its buoyancy may be too low on the child's body causing the child to float with the head under water. The Coast Guard has worked on the problem by testing some adult lifejackets on children. Some were found to be satisfactory for children over 75 pounds. Recognizing that future "adult universal" size lifejackets may be approved for persons smaller than 90 pounds, the regulations proposed in this notice refer to the lower size limit of the lifejacket.

Comments on the issue of lifejackets for children are invited. Comments suggesting alternative approaches should consider the need to provide appropriate flotation devices for all children carried, as well as the problems that are experienced by operators in complying with the requirement.

Section 180.78 Stowage of lifejackets. Proposed § 180.78(a)(4) would require lifejackets stowed more than 7 feet above the deck to have a means for quick release, capable of operation by a person standing on the deck. This is a requirement of the present regulations for large passenger vessels (46 CFR 75.40–20(b)) and also in proposed Subchapter W, but it does not now appear in Part 180. Existing § 180.25–10(a) requires lifejackets to be stowed in places convenient to the persons on board. No significant cost increase is expected to result from this proposed rule because vessels with lifejacket stowage above 7 feet would probably already have to have a means for release by a person on deck in order to meet the present "convenient" standard.

Section 180.110 Embarkation ladders. Proposed § 180.110 requires an embarkation ladder at embarkation stations if the distance from the embarkation deck to the vessel's lightest operating waterline is more than 10 feet. This is expected to affect only a very small number of vessels with high freeboards. The ladder is necessary to safely get from the embarkation deck to the water level on high freeboard vessels. The approximate cost of a satisfactory embarkation ladder is $900. This proposal is similar to a requirement in proposed Subchapter W for large inspected vessels.

Section 180.130 Survival craft stowage. Under proposed § 180.130(a), each survival craft would have to be stowed in an automatic float-free launching arrangement so that if a vessel sinks or capsizes the survival craft would float off its stowage location. Existing regulations do not require a float-free arrangement for life floats and buoyant apparatus on a small passenger vessel. Existing Subpart 180.20 requires each life float and buoyant apparatus to be held in place either by lashings which can be easily released, or by a hydrostatic release unit in a float-free arrangement. If lashings are used, the survival craft would probably remain on the vessel if the vessel suddenly capsized or sank.

Other inspection subchapters require float-free launching arrangements for inflatable survival craft. Additionally, when inflatable survival craft are installed aboard small passenger vessels, they are normally installed in a float-free arrangement. However, existing Part 180 does not specify the method of stowing inflatable survival craft since they are not now required to be carried on small passenger vessels. Navigation and Vessel Inspection Circular (NVIC) 1–83 (Painters for Life Floats and Buoyant Apparatus) and NVIC 4–86 (Hydraulic Release Units for Liferafts, Life Floats, and Buoyant Apparatus, and Alternate Float-Free Arrangement) strongly recommend that lifefloats and buoyant apparatus be stowed in float-free arrangements.

A review of casualties, including the JOAN LA RIE II, DIXIE LEE II, PEARL C, and FISH-N-FOOL, resulted in the determination that float-free arrangements are necessary for all survival craft. A greater loss of life would probably have occurred if survival craft had not floated free when the cited vessels capsized.

The proposed float-free requirement could be complied with by the use of an approved hydrostatic release unit, a crib made of pipe stanchions, or similar arrangements. A hydrostatic release unit must be approved in accordance with the requirements of 46 CFR Subpart 160.062. Subpart 160.062 describes the procedures for the approval of hydraulic releases. Hydrostatic release unit is the commonly used term for a hydraulic release. The term hydrostatic release unit will be used in Subchapter W, and the Coast Guard intends to use the more common term in a revision to Subpart 160.062.

Under proposed § 180.130(c), with the exception of survival craft of not more than 200 pounds in weight, a survival craft must not require lifting from its stowed position in order to be launched. This proposal is a result of recommendations made following investigations of the MERRY JANE, FINALISTA 100, and CAPT. JIM casualties where persons aboard these vessels had difficulty launching survival craft due to the weight of the craft. Existing § 180.20–1(a)(6) presently limits the weight of survival craft to 400 pounds. This weight appears excessive based on the cited casualties.

An approved survival craft heavier than 200 pounds could be stowed aboard a vessel so that it could be launched by using davits or other arrangements which would allow the sliding or dropping of the craft into the water without having to be lifted by persons.

Comments are specifically requested on whether or not any lifting should be permitted to launch a survival craft of even as much as 200 pounds. As many as 3 persons could be needed to lift a survival craft this heavy due to the shape of some craft. A more realistic limitation on the weight of a survival craft which does not need mechanical assistance for launching may be 100 pounds.

The cost to a vessel owner of providing survival craft stowage which complies with proposed § 180.130 will vary depending on the type of survival craft and the arrangement of a vessel. Costs will include both the stowage arrangement and any necessary local strengthening of decks or other modifications. The owners of fifty percent of the vessels required to have survival craft are expected to incur a cost of approximately $500 per vessel to comply. The cost for most other vessels to comply is expected to be less than $500.

Section 180.150 Survival craft launching arrangements. Proposed § 180.150 would require a launching appliance for each survival craft whose embarkation station is located on a deck at least 15 feet above the waterline, or which is boarded prior to being placed in the water. A launching appliance for an inflatable liferaft or inflatable buoyant apparatus could be a davit and winch, an inflatable escape slide, or anything else approved as an equivalent by the Commandant to safely and efficiently transport survivors from the vessel and into the survival craft in the water. The proposed requirement is similar to one in existing Subchapter H and which will be proposed for inclusion in Subchapter W.

The requirement for survival craft launching appliances will not apply to most small passenger vessels because the embarkation deck on most vessels is close to the water. Most vessels can be properly designed and arranged to avoid having to install launching appliances. However, the owner of one of the few small passenger vessels, required to have launching appliances by the proposed regulations, is expected to incur a cost of approximately $20,000 to comply with proposed § 180.150 for a group of six davit-launched liferafts.

Subpart E—Survival craft. Revised survival craft requirements are proposed in Subpart E of Part 180 (§§ 180.200 through 180.210). Under § 180.202, each small passenger vessel on an oceans route except when operating in certain areas at specified times of the year, would be required to have inflatable liferafts of an aggregate capacity which will accommodate the total number of persons permitted on board. The section would allow life floats to be substituted for inflatable liferafts in certain areas at the indicated times of the year. These ocean areas and times of the year have been chosen to include waters where the mean low water temperature for each month approximately equals or exceeds 59 °F (15 °C). The boundaries for these areas have been chosen to correspond with established boundaries for Coast Guard Marine Inspection Zones, insofar as is possible, along with some common geographic breakpoints included in Certificate of Inspection route endorsements. Marine Inspection Zone boundaries are established under 33 CFR Part 3. Comments are specifically requested on the appropriateness of the proposed boundaries for reduced survival craft.

The present regulations require small passenger vessels on an ocean route to carry sufficient life floats for all persons on board. The shortcomings of the present regulations are that they do not provide adequate survival equipment in cold water. Life floats only provide something for persons in the water to hang on to. A few people may be able to stand on the platform in the middle of the life float, and be immersed approximately waist-deep. No protection is provided for wind and waves. Search and rescue data suggest that unprotected persons in the water will start to die of immersion hypothermia or its complications after two hours in 59 °F (15 °C) water. Seven or eight hours is about the maximum expected survival time in waters of this temperature. Expected survival times drop in lower water temperatures. Even with adequate notification, rescue operations in ocean waters can extend for several hours, depending upon how close rescue resources are. Liferafts provide out-of-the-water flotation and protection from wind and waves for survivors of casualties in cold and rough waters, thereby reducing deaths due to immersion hypothermia and drowning.

Under a proposal submitted as a result of CGD 085–21, the National Marine Manufacturers Association recommended that vessels carrying not more than 12 passengers operating on an inland or coastwise route, which have positive buoyancy when fully flooded or swamped, not be required to have survival craft. Although persons could hold onto a capsized vessel or stay in a flooded vessel which has positive buoyancy, such a vessel would not provide protection from wind, waves, and hypothermia. Additionally, a vessel with positive buoyancy may still need

survival craft in the event that a fire caused the abandonment of the vessel.

The U.S. Lifesaving Manufacturers Association (USLMA) commented under CGD 85–021 that all small passenger vessels should be required to carry survival craft which will allow all persons permitted aboard a vessel to stay out of the water. The Coast Guard does agree with the USLMA's concern that persons be protected from hypothermia, and the proposed regulations address that concern while also considering the cost of such regulations on the small passenger vessel industry and the public. The ideal situation would be to have such survival craft on all vessels, but it is not economically feasible to do so.

Comments on alternatives to inflatable liferafts and buoyant apparatus which would protect persons from hypothermia are specifically requested.

Under proposed § 180.204, each vessel in coastwise or Great Lakes service would be required to have inflatable buoyant apparatus of an aggregate capacity which will accommodate the total number of persons permitted on board. The section would allow for substitution of buoyant apparatus for the inflatable buoyant apparatus in certain areas at the indicated times of the year. Inflatable buoyant apparatus are similar to inflatable liferafts, except that they have no canopy, and carry only a limited amount of survival equipment. This makes them less expensive than inflatable liferafts for operators to buy and maintain. They provide out-of-the-water flotation for survivors, but the lack of a canopy means that there is no protection from wind and waves. Nevertheless, these devices should be adequate for vessels on coastwise or Great Lakes voyages which will typically be closer than ocean voyage vessels to other vessels and shore-based rescue facilities. As for ocean voyage vessels, coastwise vessels may substitute a device of lesser lifesaving capabilities in warmer waters. For coastwise voyages, this is the (rigid) buoyant apparatus, a device similar to a life float, but lacking the life float's platform for supporting survivors partially out of the water. As for ocean voyage vessels, the times and places for the substitution are based on a 59 °F (15 °C) mean low water temperature. The boundaries extend further north in the summer and fall months, since coastal waters are warmer than open ocean waters in these months.

The present regulations for coastwise vessels require buoyant apparatus for all persons on board. Only 50% capacity is required on the Great Lakes or on a coastwise voyage within 20 miles of a harbor of safe refuge. The OCMI may authorize carriage of fewer buoyant apparatus if the vessel operates within one mile of shore.

The proposed regulations for ocean, coastwise or Great Lakes voyages would provide out-of-the-water flotation for survivors of casualties in cold and rough waters, thereby reducing deaths due to immersion hypothermia. The change is consistent with findings of shortcomings of survival craft in National Transportation Safety Board and Coast Guard investigations of casualties involving the FISH-N-FOOL, PILGRIM BELLE, COMET, YANKEE, SAN MATEO, JOAN LaRIE III, DIXIE LEE II, and PEARL C.

Under proposed §§ 180.206 and 180.208, each vessel carrying more than 150 passengers in lakes, bays, and sounds service or in river service must be provided with inflatable buoyant apparatus of an aggregate capacity which will accommodate the total number of persons permitted on board, during those periods of the year when the normal temperature of the water is less than 59° F (15° C) in the area where the vessel operates. Reductions would be allowed for vessels operating in warmer waters, for vessels carrying no more than 150 passengers, and for vessels operating within one mile of shore. Proposed §§ 180.206 and 180.208 are intended to fulfill an obligation under a provision in the 1984 Coast Guard Authorization Act which required the Secretary of Transportation to proceed vigorously with efforts to develop improved lifesaving equipment for use on passenger ferries (Pub. L. 98–557). Ferries are typically large capacity vessels. As proposed, the requirement would not be restricted to ferries. Other vessels of a similar capacity should be required to meet similar requirements, even if they are not in ferry service.

In order to certificate small passenger vessels in Great Lakes service, lakes, bays, and sounds service, or in river service, each OCMI would establish the times of the year when the waters within the OCMI's zone normally equal or exceed 59° F (15° C). These determinations would be based on whatever reliable hydrographic data is available for those waters. There is no intent to imply the need to continuously monitor actual water temperatures in order to comply with this proposal.

In the current regulations, 46 CFR 180.10–30(b) provides for substitution of dinghies, dories, skiffs, etc. for primary lifesaving equipment (buoyant apparatus or life floats). This substitution would continue to be permitted under proposed § 180.200(b), if the boat meets the safe loading and flotation requirements which the Coast Guard currently requires for recreational boats. Because such boats would not provide survival platforms equivalent to inflatable life rafts or inflatable buoyant apparatus, substitution for inflatable life rafts or inflatable buoyant apparatus would not be permitted.

The proposed regulations would not continue to permit up to two ring life buoys to be substituted for a similar capacity in buoyant apparatus and life floats. The substitution now appears in 46 CFR 180.10–30(d). Under the "grandfather clause" in proposed § 180.15(a), existing vessels could continue to use substituted ring life buoys until they are required to retrofit survival craft under proposed § 180.15(b)(1).

Approximate cost for survival craft at the present time are as follows: From $3500 for a 6 person inflatable liferaft to $6,000 for a 25 person inflatable liferaft; from $4500 for a 16 person inflatable buoyant apparatus to $5800 for a 45 person inflatable buoyant apparatus; from $500 for a 6 person lifefloat to $1240 for a 22 person lifefloat; from $480 for a 10 person buoyant apparatus to $1200 for a 22 person buoyant apparatus. The required annual servicing cost for inflatable liferafts is approximately $20 per person capacity of the raft, and the servicing cost for inflatable buoyant apparatus is approximately $10 per person capacity.

Section 180.210 Rescue boats. Proposed § 180.210 would require a rescue boat on a small passenger vessel of more than 65 feet in length unless the OCMI determines that the vessel meets three specific performance criteria. Existing § 180.10–35 requires a rescue boat on a vessel of more than 65 feet in length unless the OCMI determines that the vessel is of such design and operating characteristics that the vessel provides a satisfactory rescue platform. The proposed regulation includes more specific performance standards, compared to the existing regulations, as to when the design and operating characteristics of a vessel might make a rescue boat unnecessary. An OCMI may consider a rescue boat unnecessary on a vessel of more than 65 feet in length if:

(1) The vessel can be easily maneuvered alongside a person in the water;

(2) The vessel has a low freeboard, a platform (including a satisfactory portable platform) or a similar arrangement so that the crew can pull the person from the water; and

(3) The master or mate can easily see the person in the water from the

operating station while the vessel approaches the person.

The proposed regulation also authorizes the OCMI to require a rescue boat on a vessel of not more than 65 feet in length which can not satisfactorily serve as a rescue platform. The existing requirement for a rescue boat only applies to a vessel of more than 65 feet in length. This change would give the OCMI the option to require a rescue boat on the few vessels of not more than 65 feet in length that, even with their small size, are not adequately arranged or maneuverable to serve as a rescue platform, or which are involved in operations which would prevent the rapid recovery of a person in the water. An example of a small vessel which may need a rescue boat is a dive vessel that cannot get underway to assist a passenger who had entered the water for diving or snorkeling and cannot return to the vessel. Five fatalities involving diving accidents occurred from 1983 through 1987, in one marine inspection zone alone, which may have been prevented by the use of a rescue boat. The victims had been transported to the dive site by small passenger vessels of not more than 65 feet in length.

Rescue boats on vessels of more than 65 feet in length would be required to be installed and arranged as will be proposed in Subchapter W. The requirements in proposed Subchapter W primarily incorporate the regulations on rescue boats contained in the International Convention for the Safety of Life at Sea, 1974. Under this proposal, approved inflatable boats could be used as rescue boats. Rescue boats on vessels of not more than 65 feet in length would have to be satisfactory to the cognizant OCMI. This would allow the OCMI to consider the size, arrangement, and operation of such smaller vessels when requiring a suitable rescue boat.

Part 181—Fire Protection Equipment

Subpart A—General Provisions. The regulations proposed in this part would not apply to existing vessels except as noted in § 181.115. Proposed § 181.115(b) requires that an existing vessel with a hull or machinery space boundary bulkhead composed of or sheathed on the interior in fiber reinforced plastic (FRP) must comply with proposed § 181.400, which contains requirements for fixed gas fire extinguishing systems and fire detecting systems. A separate fire detecting system would not be required if a fixed gas extinguishing system capable of automatic discharge upon heat detection is installed. Such systems can be easily installed on most FRP small passenger vessels.

The only other small passenger vessels, in addition to those composed of FRP, which would be required to have fixed gas extinguishing systems are vessels with gasoline machinery or with paint lockers, which are presently required to have such systems by existing § 181.20–1.

The discussion in the preamble of proposed Subpart D of Part 181 includes the general need for fixed gas fire extinguishing systems and fire detecting systems. Because of the significant benefit of having such systems, consideration was given to requiring fixed gas fire extinguishing systems and fire detecting systems on all existing vessels. However, retrofitting all existing vessels would have a substantial cost impact on the small passenger vessel industry. Casualty data was therefore analyzed to see which existing vessels have the greatest need for fixed systems. This analysis showed FRP small passenger vessels suffered a disproportionate share of the number of and monetary damage from fires. Thirty-four percent of all machinery space fires on small passenger vessels, from 1981 through 1986, occurred on FRP vessels although FRP vessels comprise only 20 percent of the small passenger vessel fleet. That is a fleet percentage to fire percentage ratio of 1.7:1. In comparison, the fleet percentage to fire percentage ratio for wooden small passenger vessels is 1.25:1. The ratios for vessels made of steel or aluminum are much lower. Only FRP small passenger vessels would be required to have fixed gas fire protection systems and fire detecting systems because the risk of such vessels having machinery space fires, and hence the cost-benefit ratio, is significantly greater than for vessels composed of other materials.

Proposed § 181.115(c) requires that existing vessels, which use gasoline or other fuels having a flash point of 110°F or lower, comply with the requirement of proposed § 181.400(j) to install a flammable vapor detection system. The general need for such systems is explained in the discussion in the preamble of proposed Subpart D of Part 181.

Existing small passenger vessels would not have to install fixed gas extinguishing systems, fire detecting systems, or flammable vapor detection systems until 3 years after the effective date of the final rules.

Subpart C—Fire Main System. Proposed § 181.300 increases the existing required flow rate from the fire pump on a vessel of more than 65 feet in length from 50 gallons per minute (gpm) at 80 psi at the pump outlet to 80 gpm at 50 psi delivered simultaneously at the two highest hydrants on the vessel. The new requirements are considered to better provide for a vessel's needs for fire fighting. The simultaneous flow is required to ensure that sufficient coverage can be provided from a lead hose and backup hose when at least two hydrants are required on a vessel. Recommended fire fighting practice includes the use of a lead hose and a backup hose.

A vessel of not more than 65 feet in length carrying more than 49 passengers would be required to have a power driven fire pump that delivers 50 psi in sufficient volume to provide an effective stream of water from a fire hose attached to the highest hydrant. The current requirement for such a vessel is only for an effective stream from a hose at the highest hydrant. This proposal gives an owner a specific requirement which can be used to properly design the fire main system. A pressure of 50 psi should be sufficient to provide an adequate stream of water for fire fighting on most vessels of not more than 65 feet in length.

Under the proposed rules, the power driven fire pump must be capable of both remote and local operation. Remote operation is necessary to ensure a fire pump can be started quickly in event of a fire. Presently, on most vessels, a person must go into the unmanned engineroom, locate the pump, make sure necessary piping is properly arranged, and then start the pump. This wastes valuable time, possibly allowing a fire to enlarge. Also, with limited crew and no assurance that the required deckhands have any training in engineering practices, requiring the capability of remote operation of the fire pump is the best way to ensure that fire fighting water will be readily available and that the crew will be able to perform other fire fighting tasks.

Proposed § 181.320 requires all fire hose nozzles to be combination type nozzles capable of supplying a solid stream and a spray pattern. Combination nozzles are not presently required but are being proposed to provide both straight streams and fog streams necessary to fight fires of different types. All other inspected vessels are presently required to have combination nozzles. The proposed rules require that all nozzles on vessels of more than 65 feet in length be Coast Guard approved; smaller vessels would not be required to have approved nozzles. The only nozzles approved by the Coast Guard, under 46 CFR Subchapter Q, are combination nozzles.

Subpart D—Fixed Fire Extinguishing and Detecting Systems. Proposed § 181.400 specifies the required fire protection, detecting, and extinguishing equipment for certain spaces on small passenger vessels depending on the use of the space, the number of passengers carried, and the nature of service. The proposed rules contain an important increase in the fire fighting capability of small passenger vessels. Existing § 181.20–1 requires the installation of a fixed carbon dioxide fire extinguishing system in: Machinery and fuel tank spaces of all vessels using gasoline or other fuel having a flash point of 110 °F or lower, paint and oil rooms and similar hazardous spaces, and inaccessible cargo spaces used for combustible cargo. In addition to retaining the requirements of existing § 181.20–1, proposed § 181.400(a) requires a fixed gas extinguishing system in all machinery spaces containing main propulsion machinery, internal combustion engines of over 50 hp, or oil fired boilers.

Prior to proposing the requirements for fixed gas fire extinguishing systems, all reported machinery space fires on small passenger vessels during the period 1981–1986 were evaluated. During that period there were fifty machinery space fires reported to the Coast Guard, which represents 57 percent of the reported fires. The number of actual fires may be higher since all fires are not required to be reported. Of the 50 reported fires, 5 resulted in the total loss of the vessel. In 21 of the fires, a fixed gas fire extinguishing system probably would have resulted in a significant reduction in damage to the vessel by preventing the spread of the fire once it was discovered. The remaining fires were either quickly extinguished with portable fire extinguishers or went out on their own.

As a result of the M/V PILGRIM BELLE casualty in 1985, the NTSB recommended that a fixed gas fire extinguishing system be required in the machinery space of all small passenger vessels with overnight accommodations for more than 50 passengers. Coast Guard investigators have also recommended fixed gas fire extinguishing systems in the machinery space of small passenger vessels following fires in those spaces on three other vessels.

Under existing §§ 175.05–1(b) and 175.05–15, the OCMI and Commandant may require certain vessels to be equipped with fixed gas fire extinguishing systems and detecting systems in accordance with Subchapter H when the size of the vessel, nature of voyages, and/or the hazards involved are incompatible with the existing requirements. NVIC 11–83 notes that a vessel with overnight accommodations for more than 50 passengers should normally be required to comply with the fixed gas fire extinguishing system and detecting system requirements of Subchapter H. Halon systems are not addressed in current regulations; the present policy guidance regarding these systems is contained in NVIC 6–72, Change 1, Guide to Fire Fighting Equipment Aboard Merchant Vessels.

In developing the proposed requirements for fixed gas fire extinguishing systems, the following requirements and recommendations for other vessels were considered: 46 CFR Subchapter H (Passenger Vessels), 1974 Safety of Life at Sea Convention, NVIC 5–86 ("Voluntary Standards for U.S. Uninspected Commercial Fishing Vessels"), NVIC 6–72 ("Guide to Fire Fighting Equipment Aboard Merchant Vessels"), National Fire Protection Association Standard 101 ("Life Safety Code"), and Canadian regulations for small passenger vessels.

Proposed § 181.400(b) discusses alternatives and exceptions to the requirement for a fixed gas fire extinguishing system that complies with proposed § 181.410. Proposed § 181.410 contains the design, installation, and testing requirements for custom engineered systems. Proposed § 181.410(b)(2) would permit the use of pre-engineered Halon systems, which were originally developed for recreational vessels, in a normally unoccupied space if the volume of the space is not more than 1200 cubic feet. The largest size, pre-engineered system presently approved is only capable of protecting a space of not more than 1200 cubic feet. The terms "custom engineered" and "pre-engineered" are derived from industry standards and are defined in proposed § 175.400.

Proposed § 181.400(b)(3) allows a B–II portable fire extinguisher to substitute for a required fixed system for paint lockers and spaces containing flammable liquid stores with a volume of not more than 200 cubic feet.

Proposed § 181.400 also requires fire detecting systems to provide early detection of fires, allowing time for evacuation and effective fire fighting. A fire detecting system would be required in:

1. A normally unoccupied machinery space containing propulsion machinery, an internal combustion engine of over 50 hp, gasoline powered machinery, or an oil fired boiler, if the machinery space is not fitted with an automatically actuated fixed gas fire extinguishing system capable of automatic discharge upon heat detection;

2. Each accommodation space and service space on a vessel carrying more than 150 passengers;

3. Each accommodation space and service space on a vessel with overnight accommodations for more than 49 passengers and/or carrying more than 400 passengers; and

4. An enclosed vehicle space.

The proposal requires modular independent smoke detecting units, which comply with UL Standard 217 for recreational vehicles, for berthing spaces on vessels with overnight accommodations for not more than 49 passengers. Finally, on vessels with overnight accommodations for more than 49 passengers or carrying more than 400 passengers, the proposal requires independent heat detectors for the activation of fixed fire extinguishing systems over all grills, broilers, and deep fat fryers.

Proposed § 181.400(j) requires that all vessels using gasoline, or any fuel with a flash point of 110° F or lower, be equipped with a flammable vapor detection system complying with Underwriters Laboratories standards. These detectors are necessary to detect volatile vapors which may result in explosion and fire. Three of the four persons injured in reported fuel related fires and explosions on small passenger vessels during the period 1981–1986 were on gasoline powered vessels. One of the injuries occurred due to the explosion and fire on the M/V QUINSIPPI at Zuning, IL in 1982. The QUINSIPPI had actually been equipped with a vapor detector; however, after the detector alarm sounded several times the master assumed the detector was defective and turned it off when he could not detect any gasoline leak or buildup. Properly used flammable vapor detectors may have prevented all three of the casualties and saved more than $50,000 in damages. The estimated cost of a vapor detection system for the average gasoline powered vessel is $200.

Subpart E—Portable Fire Extinguishers. Proposed § 181.500(a) allows the selection of Halon portable fire extinguishers which are not addressed in existing Subchapter T. It also requires that the number of portable extinguishers for accommodation spaces be based on the area of the space, as is the requirement of Subchapter H for large passengers vessels.

Subpart F—Additional Equipment. Proposed § 181.610 requires all vessels to have three buckets capable of being

used for fire fighting instead of the portable hand fire pump required by existing § 181.10–5. Numerous Coast Guard field units have reported that the portable hand pumps are unsatisfactory for fire fighting. Presently, a portable hand bilge pump may also serve as a fire pump, but the combination pump many owners use to serve as both a bilge and a fire pump is unsatisfactory for fire fighting. Buckets are considered to be more beneficial than portable hand fire pumps because they can actually provide a greater water volume, are less expensive, and are maintenance free.

Part 182—Machinery Installations

General. The basic format and contents of proposed Part 182 is unchanged from the existing regulations except:

(1) Requirements for gasoline and diesel machinery installations, not including ventilation requirements, are combined to eliminate redundancy; and

(2) The materials tables for independent gasoline and diesel fuel tanks in the existing regulations are combined with limitations on use included in footnotes.

Subpart B—Propulsion Machinery. Proposed § 182.200 requires that all engines be provided with at least two means for stopping the engines under any operating conditions. Diesel and gas turbine engines rated at 300 horsepower or more would also be required to have an emergency overspeed shut down device. This proposal reflects the requirements of paragraph 9.2.3 of the IMO "Code of Safety for Dynamically Supported Craft" (IMO Code). However, as incorporated here, its application is not limited to dynamically supported craft as it is a safety feature beneficial to all engine installations regardless of vessel type. The economic impact of this requirement is expected to be insignificant as a majority of engines are currently equipped with adequate shutdowns. Most classification society rules also require an emergency overspeed shutdown device on large engines on classed vessels. Although few small passenger vessels are classed, classification society rules provide acceptable guidance for machinery installations on small passenger vessels.

Subpart C—Auxiliary Machinery. Proposed § 182.320 incorporates current policy and applicable regulations in Subchapter F on hot water heaters and pressure vessels which are presently applied to small passenger vessels. This proposal allows the installation of moderately sized, electric hot water heaters which meet Underwriters Laboratories Inc. standards. This proposal imposes no additional costs on small passenger vessel owners.

Subpart D—Specific Machinery Requirements. Proposed § 182.410(b) regulates the design, construction, and materials used for machinery containing high energy rotating parts. This provision was incorporated from paragraph 9.1.3 of the IMO "Code of Safety for Dynamically Supported Craft." As incorporated here, these requirements are not limited to DSC, but apply to all engine installations, regardless of vessel type.

Proposed § 182.420 revises the requirements on air cooled engine installations. Existing Part 182 limits air cooled engine installations to gasoline auxiliary engines on open deck and diesel auxiliary and propulsion engines above and below deck. However, current policy, expressed in Volume II of the Marine Safety Manual, paragraph 10 A.2.j, permits air cooled auxiliary and propulsion gasoline engines that meet ABYC Project P–10. This policy applies to all vessels although Project P–10 was intended only for small craft. Therefore, proposed § 182.420 would allow an air cooled, gasoline auxiliary engine to be located on a weather deck of any vessel, but only in an enclosed or partially enclosed space on a vessel of not more than 65 feet in length carrying not more than 12 passengers, and only if the engine installation complies with ABYC Project P–10. An air cooled, gasoline propulsion engine, regardless of its location, would only be allowed on a vessel of not more than 65 feet in length carrying not more than 12 passengers, and only if the engine installation complies with ABYC Project P–10.

Proposed § 182.422 incorporates current regulations in Subchapter F and existing policy for keel cooler and grid cooler installations. The existing regulations do not address such installations.

Proposed § 182.425 differentiates between requirements pertaining to wet and dry exhaust systems. Due to their higher operating temperature, dry exhaust systems must meet standards more stringent than standards for wet exhaust systems. Existing regulations do not differentiate between wet and dry exhaust systems. As a result, certain standards, which should only apply to dry exhaust systems, are unnecessarily applied to all exhaust installations. Such standards include stringent bulkhead penetration and other insulation requirements. These requirements would be revised to apply only to dry exhaust systems. Nonmetallic flexible hose is permitted by existing Part 182 in both wet and dry exhaust systems. The revision proposes permitting nonmetallic exhaust hose only for wet exhaust systems, consistent with current policy and ABYC Project P–1. Materials listed in ABYC Project P–1 would be accepted. These revisions to the engine exhaust cooling requirements are expected to provide a cost savings of $200 for a vessel equipped with a water cooled exhaust system.

Proposed § 182.440(a)(1) and Table 182.440(a)(1) allow aluminum alloys 5052 and 5083 of ASTM B209 to be accepted as materials for independent fuel tanks. The existing tables on independent tank materials, Tables 182.15–25(a)(1) and 182.20–25(a)(1), only specifically allow the use of aluminum alloy 5086. The proposal is consistent with current policy although the alloys are not listed in the existing tank material tables. The maximum capacity of an independent tank built with the tabulated thicknesses in proposed Table 182.440(a)(1) is 400 gallons. Above 400 gallons, tanks must be designed with a factor of safety of four on the ultimate strength of the material used, with a design head of not less than 4 feet of liquid above the top of the tank. This is consistent with current policy and the requirements for independent tanks constructed under Part 58 of Subchapter F, and recognizes that large tanks must be individually designed to ensure adequate strength.

Proposed § 182.440(a)(7) allows independent fuel tanks with horizontal dimensions exceeding 30 inches to be installed either without any baffles, or with baffles which are more than 30 inches apart, if design calculations show that baffles located at intervals of not more than 30 inches are not necessary. The existing regulations require that an independent fuel tank have baffles at intervals of not more than 30 inches if the tank exceeds 30 inches in any horizontal dimension. An estimated cost savings of $100 is expected for each vessel having tanks which would not be required to have baffles under this proposed regulation.

Proposed § 182.455 accepts U.S.C.G Types A1, A2, B1, and B2 flexible hoses for fuel line applications subject to operating pressures of less than 5 psi. The final rule on fuel system standards for recreational boats, published May 27, 1987 (52 FR 19726), discusses the four fuel hose types. Although the recently published requirements do not limit the use of Types A1, A2, B1, and B2 flexible hoses to 5 psi for recreational boats, the proposed 5 psi limitation for these hoses on small passenger vessels is consistent with current policy. This will allow owners and managing operators to more easily procure off-the-shelf flexible hoses and will provide an approximate

$30 savings over a wire-reinforced, flexible hose which would otherwise be required by proposed § 182.455(a)(2)(ii) and is now required by §§ 182.15–40(a)(3) and 182.20–40(a)(2)(ii).

Proposed § 182.455(a)(2)(v) requires that a flexible hose assembly in a fuel line, which includes the hose, cover, and fittings, meet the Society of Automotive Engineers (SAE) standard, SAE J1942—"Hose and Hose Assemblies for Marine Applications," or be specifically approved by the Commandant. Standard SAE J1942 is presently in a draft form and is expected to be published as an accepted standard by the Society of Automotive Engineers prior to promulgation of the final rule under this docket. Existing §§ 182.15–40(a)(3) and 182.20–40(a)(2) require that a flexible hose cover be determined to be self-extinguishing in accordance with ASTM Specification D1692, which is no longer valid, and that the hose assembly withstand a free burning gasoline test. Proposed SAE J1942 includes a fire test requirement as well as many of the other requirements for flexible hoses in proposed § 182.455(a)(2). Flexible hoses which would meet SAE J1942 are expected to be widely available. If proposed SAE J1942 is not adopted prior to issuance of the final rule under this docket, the Coast Guard intends to require nonmetallic flexible hose assemblies to meet the requirements of 46 CFR 56.60–25(c) of this chapter.

Subpart E—Bilge & Ballast Systems. Proposed § 182.500 requires that vessels of more than 65 feet in length with overnight accommodations for more than 49 overnight passengers, and vessels of more than 65 feet in length carrying more than 150 passengers, comply with the bilge system requirements of 46 CFR Subchapter F (§§ 56.50–50 and 56.50–55), with the exception of emergency bilge pump requirements. This proposal incorporates provisions of NVIC 11–83. The application of Subchapter F regulations to vessels carrying more than 150 passengers is based on current § 175.05–1(b) which allows the OCMI to apply Subchapter F to vessels carrying more than 150 passengers. This revision will ensure consistent treatment among OCMI zones and provides a more adequate level of safety for "very large" small passenger vessels with overnight accommodations for more than 49 passengers and large daytime excursion vessels than do the specific bilge requirements proposed in Subchapter T. Compliance with the Subchapter F regulations would cost approximately $400 more per vessel than compliance with the specific Subchapter T bilge requirements.

Proposed § 182.520 would revise existing § 182.25–10. The existing regulations require that vessels of not more than 65 feet in length be equipped with a portable hand bilge pump. The Coast Guard has received several comments on the inadequacy of portable hand pumps. Under the proposed regulation, power pumps would be allowed as an alternative when portable and fixed hand pumps are required. Where a power pump used as an alternative to a hand pump serves as the second required pump on a vessel, it must be supplied by a source of power independent of the other power bilge pump.

Vessels of not more than 65 feet in length and carrying not more than 49 passengers, other than ferry vessels, would be allowed to use fixed electric, submersible pumps to serve as the power bilge pump required by proposed Table 182.520(a). Submerged electric bilge pumps are not specifically authorized by the existing regulations. These pumps are often the preferred option of builders and have proven successful in certain applications. The acceptance of electric submersible bilge pumps reflects current policy of many OCMIs and satisfactory experience with such pumps. The use of such pumps may result in a cost savings of $150 per vessel.

The proposed rules address catamaran type hulls by incorporating current policy. Provided the bilge pumps are of suitable capacity and are located separately in each hull, only two bilge pumps will be required where the fire pump is cross connected with the bilge system and each bilge pump is capable of dewatering the opposite hull through permanent piping.

Proposed § 182.530 requires that bilge level alarms be installed in all unattended machinery spaces located below the deepest load waterline on vessels of at least 26 feet in length. Review of casualties indicate that a contributing cause of many sinkings and founderings is undetected flooding. In many cases, early detection of flooding would have saved a vessel. The National Transportation Safety Board has recommended that bilge level alarms be required on certain small passenger vessels. The net cost for such an installation is estimated to be between $200 and $400 per vessel.

Subpart F—Steering Requirements. Proposed Subpart F contains new requirements for minimum rudder swing times, a rudder angle indicator for certain vessels, electrical requirements, and rudder stops. Existing steering regulations in Part 182 do not adequately address the variety of steering arrangements found on small passenger vessels. Existing regulations further fail to give sufficient guidance as to what constitutes a "suitable steering apparatus." The expanded steering requirements in the proposed rules give specific guidance for safe design and installation of steering systems. These revisions reflect current safety standards for steering systems and are, for the most part, consistent with steering systems presently being designed for small passenger vessels. Most existing vessels already meet the proposed requirements. However, proposed § 182.610 includes a new requirement for a rudder angle indicator on vessels of more than 65 feet in length with power-driven steering gear. Small passenger vessels are presently not required to have rudder angle indicators. A review of steering casualties on all vessels with power actuated steering shows that a rudder angle indicator provides the initial indication of a casualty. The proposed requirement is consistent with regulations presently requiring rudder angle indicators on vessels comparable in size to small passenger vessels of more than 65 feet in length, including offshore supply vessels and sailing school vessels. The proposed steering system requirements are expected to result in only minor cost increases for most vessels. A vessel of more than 65 feet in length is expected to have an estimated cost increase of $150 primarily due to the rudder angle indicator requirements.

Subpart G—Piping Systems. Proposed Subpart G addresses the materials used in and the installation of piping systems. The proposal contains a tiered set of requirements that range from materials being acceptable to the OCMI for non-vital systems under 150 psi to invoking Subchapter F, Subpart 56.60, for vital systems on vessels of more than 65 feet in length with overnight accommodations for more than 49 passengers and on all vessels carrying more than 150 passengers. Several OCMIs currently impose similar standards and the economic impact of the proposal should be negligible.

Existing Subpart 182.40 addresses nonmetallic piping materials. In the proposed rules, the requirements on nonmetallic piping materials section have been retained in § 182.720, and a new section, § 182.730, on nonferrous metallic piping materials has been developed from existing regulations in Subchapter F, with modifications to reflect current policy on the use of

aluminum piping. Proposed § 182.730 is not expected to create a significant economic burden as the majority of the requirements reflect existing Coast Guard policy and small passenger vessel industry practices on the use of nonferrous metallic piping.

Part 183—Electrical Installations

General. Proposed Part 183 updates the existing electrical regulations by providing requirements more appropriate for the sophisticated electrical systems found on small passenger vessels today and incorporates current policies and practices which have been accepted by the Coast Guard. To eliminate some redundancy, similar regulations in the existing Subpart 183.05, "Electrical Installations Operating at Potentials of Less Than 50 Volts," and existing Subpart 183.10, "Electrical Installations Operating at Potentials of 50 Volts or More," have been consolidated.

Section 183.310 Power Sources. Proposed § 183.310 requires that each vessel which relies on electricity to power its ship's service loads, have two sources of electrical power capable of providing power to certain essential loads. The combination of a generator or alternator driven by the main engine, and a battery, would meet this requirement. This proposed requirement is intended to prevent the failure of one power source from disabling a vessel. The cost to comply with this proposed requirement varies for each vessel. Most small passenger vessels of not more than 65 feet in length presently comply with the proposed requirement. For instance, a vessel with battery started propulsion machinery with an alternator to charge the battery would comply. A small passenger vessel with a large generator for ship's service loads may have to have a second generator at a cost of more than $1,000. However, since most larger small passenger vessels being built today are being equipped with two generators, the actual cost to the small passenger vessel industry of this requirement is considered minimal.

Sections 183.322 and 183.324 Multiple generators and dual-voltage generators. Proposed §§ 183.322 and 183.324 address the installation of multiple generators and dual voltage generators. The requirements are written to ensure that the operation of multiple generators does not jeopardize a vessel or persons onboard. A dual-voltage generator is required to have its neutral grounded at the switchboard to ensure that the ground voltage can be properly monitored. Since most small passenger vessels already comply with the proposed requirements, the actual cost to the small passenger industry of these requirements is considered minimal.

Section 183.340 Cable and Wiring Requirements. Proposed § 183.340 would replace existing §§ 183.05–40, 183.05–45, 183.05–50, and 183.10–20. This new section incorporates present practices and Coast Guard policy on the installation and use of cable and wire. The Coast Guard has received numerous comments recommending that the existing regulations be revised to reflect such policies and practices. The proposed regulation allows use of cable constructed to National Electrical Code standards, Underwriters Laboratories listed marine cable, or any cable constructed in accordance with § 111.60 of 46 CFR Subchapter J (Electrical). This proposal eliminates the outdated tables in existing Subchapter T on maximum current carrying capacities for cable and incorporates by reference electrical industry standards. The proposed section is expected to impose no additional cost on the small passenger vessel industry.

Section 183.354 Battery installation. Proposed § 183.354 contains requirements for three, different size battery categories. This new section is necessary because battery systems of the size not adequately regulated by the existing Subchapter T are being installed on the larger small passenger vessels being built today. Compliance with the proposed regulations, primarily adopted from 46 CFR Subchapter J (Electrical), will decrease the hazards associated with larger battery systems. This regulation is only expected to increase costs on new small passenger vessels which have large battery installations. Most vessels built with small or moderate installations already comply with the proposed regulations for these battery installations.

Section 183.360 Semiconductor rectifier systems. Proposed § 183.360 contains new requirements for semiconductor rectifier systems (SCR). The use of SCRs in the marine environment is becoming common practice. The proposed requirements ensure that the installation of these systems in vital circuits does not jeopardize a system's integrity or the safety of persons.

Section 183.380 Overcurrent Protection. Proposed § 183.380 changes the requirements for lighting branch circuit protection. The present requirements limit lighting branch circuit breakers to 15 amperes. The proposed regulations allow for lighting branch circuits to utilize 30 ampere circuit breaker protection. This reflects present electrical industry standards and the National Electrical Code.

Section 183.410 Lighting fixtures. Proposed § 183.410 contains more specific requirements for lighting fixtures than the existing regulations. Existing § 183.05–35 only states that lights on vessels with electrical installations operating at potentials of less than 50 volts must be of types listed by, or types equal to those listed by, Underwriters Laboratories or other recognized testing laboratories. The proposed regulations list specific requirements that a lighting fixture on a small passenger vessel, regardless of the electrical system, must meet. General safety installation requirements, such as securing of fixtures and protection of exposed globes and lenses, which lighting fixtures on small passenger vessels should and do normally meet, are adopted in this proposal from § 111.75–20 of Subchapter J. The proposal does retain the current requirement, contained in existing § 183.10–20(1), that lighting fixtures on a vessel with electrical installations operating at potentials of 50 volts or more meet UL Standard 595, "Standard for Marine Type Electrical Lighting Fixtures," or be constructed in accordance with the requirements of other recognized testing laboratories.

A lighting fixture in an electrical system of more than 50 volts need not be listed by Underwriters Laboratories, but an owner must show the fixture complies with UL 595. UL 595 contains separate requirements for both interior and exterior lighting on a vessel. The Coast Guard has received comments that interior lighting should be allowed to meet UL Standard 57, "Electric Lighting Fixtures." UL 57 does not provide for the vibration and movement that fixtures are subject to on vessels. However, lighting fixtures listed under UL 57 may be used in interior spaces on a vessel if an owner can show that the fixture also complies with the requirements of UL 595.

Section 183.430 Portable lights. Proposed § 183.430 requires that each vessel be equipped with at least two portable battery lights. Existing § 184.30–1 only requires that each vessel have a suitable number of lights. Requiring a specific, minimum number of lights will help eliminate inconsistencies and ensure that vessels are adequately equipped. On most vessels, at least two portable lights would be necessary upon failure of primary lighting.

Section 183.432 Emergency lighting. Proposed § 183.432 requires, on a vessel of more than 65 feet in length,

emergency lighting capable of providing sufficient lighting to allow persons to get to open decks from all accommodation spaces, machinery spaces, and workspaces on the vessel. Existing § 180.30–5 only requires that emergency lighting be fitted along the line of escape on a vessel having lounge areas below the main deck. However, emergency lighting is especially necessary on larger vessels where flashlights would provide insufficient lighting because of vessel size or the number of passengers carried. This proposal therefore requires that vessels of more than 65 feet in length have emergency lighting for escape from all spaces. Vessels of not more than 65 feet in length would only be required to have the emergency lighting presently required. This proposal is not expected to have a significant cost impact on the industry since most vessels are presently equipped with satisfactory emergency lighting.

Section 183.510 Propulsion engine control systems. Proposed § 183.510 contains new requirements for controlling propulsion engines. It requires that a vessel have a means for shutting down a propulsion engine at each location where a propulsion engine can be started or its speed controlled. The means to shut down must be independent of the speed control. Pilothouse control units normally comply with this requirement.

Proposed § 183.510 also requires that a vessel with only one propulsion engine have a backup means of controlling the propulsion engine in addition to pilothouse control. A mechanical linkage propulsion control system that has a disconnect device fitted at the engine to disconnect the remote control, with an efficient means to operate the engine locally, would meet this requirement. A twin engine vessel with independent remote propulsion controls would not need backup means of controlling the engines. The proposed requirements help ensure that a vessel will not be disabled due to a single fault of a propulsion engine control system.

Part 184—Vessel Control and Miscellaneous Systems and Equipment

Section 184.115 Applicability to existing vessels. The regulations proposed in this part would apply to existing vessels except as noted in § 184.115. Most of the requirements in proposed Part 184 are contained in the existing regulations. New requirements being proposed for inclusion in Part 184 were evaluated for need and cost to determine whether they should be applicable to existing vessels. An existing vessel would not have to comply with §§ 184.402(d), 184.404, 184.406, 184.408, 184.410, and 184.602 of this part unless the OCMI specifically requires compliance. This provision is included because some OCMIs presently require the installation of electronic navigational equipment on certain vessels due to the route and service of those vessels, and the weather and vessel traffic conditions within a particular marine inspection zone.

Due to the need to ensure that all passengers can be properly advised in emergency situations, the new requirement for a public address (PA) system, in proposed § 184.610, would be applicable to existing vessels. However, so that an owner has sufficient time to plan for the installation and cost of a PA system, a phase in period for PA systems on existing vessels is proposed.

An existing vessel would also have to comply with the new requirement for a first aid kit in proposed § 184.710.

Sections 184.210 and 184.220 Heating and cooking equipment. Proposed §§ 184.210 and 184.220 were primarily developed from existing § 183.10–45 (Electric heating and cooking equipment (50 volts or more)). The requirements in existing § 183.10–45 are safety provisions that generally should be applicable to all heating and cooking equipment, not just electrical heating and cooking equipment. American Boat and Yacht Council (ABYC), National Fire Protection Association (NFPA), and Underwriters Laboratories (UL) standards were considered in developing the proposed regulations. These two proposed sections are expected to have negligible cost impact since most vessels already comply with these standards.

Section 184.240 Gas cooking systems. No regulations are included in proposed § 184.240 in this notice. The Coast Guard intends to place final rules developed under Coast Guard docket 83–013, "Carriage and Use of Liquefied and Non-liquefied Gas as Cooking Fuels on Vessels Carrying Passengers," in this section. Final rules under CGD 83–013 are expected to be published by January 1989.

Section 184.300 Ground tackle and mooring lines. The requirements in proposed § 184.300 are basically the same as in existing § 184.10–1. The Coast Guard has received several comments recommending that specific guidance be provided in the regulations on anchoring equipment. However, the size and type of anchors, cables, and hawsers necessary to safely anchor or moor a vessel vary significantly and are dependent on many factors. No single table or guide could fairly cover each possible situation. Therefore, the Coast Guard is proposing that the owner be responsible for determining how best to outfit a vessel with ground tackle and mooring lines, subject to the approval of the OCMI. Numerous industry standards and classification society rules are available as guidelines.

Subpart D—Navigation Equipment. Proposed Subpart D contains new requirements for certain navigational equipment including a lighted compass, radar, fathometer, and an electronic position fixing device. This equipment is designed to improve the safety of navigation and reduce the risks of collisions, groundings, and other navigational casualties.

Much of the navigation equipment being proposed is presently required to be installed only on inspected vessels of at least 1600 gross tons. The navigational equipment is required on vessels of at least 1600 gross tons due to the inherent risks of operating such large vessels. There are also many inherent risks in operating small passenger vessels due to the number of passengers carried, operating areas, and the increased size of the vessels. As with vessels of at least 1600 gross tons, the inherent risk of operating many small passenger vessels can be reduced by the installation and use of electronic navigational equipment.

A review of small passenger vessel casualties for the period 1981–1986 showed several casualties in which equipment that the Coast Guard is proposing to require was installed aboard the involved vessels at the time of the casualties. The installed equipment would have aided the masters of these vessels in avoiding the casualties if the equipment had been properly used.

When Subchapter T regulations were initially promulgated, electronic equipment such as radar, LORAN, and fathometers, was unavailable or prohibitively expensive. However, with improved technology and mass production, costs have decreased and availability has increased, making it practical for many owners to voluntarily outfit their vessels with state of the art equipment.

1. Section 184.402 Compasses. Proposed § 184.402, which replaces existing § 184.20–1, contains new requirements that, when compasses are required, they be mounted at the operating station when a vessel is underway and that they be illuminated when the vessel is authorized to operate at night. These requirements would incorporate standard, safe marine practices to ensure that all small

passenger vessels follow such practices. Because most vessels already have a lighted and mounted compass, the cost of these proposed regulations is negligible.

2. Section 184.404 Radar. Proposed § 184.404 requires marine radar systems on certain vessels. Existing Subchapter T does not require radar for any vessel. The Coast Guard determined that four classes of vessels would most benefit from a radar system, when the cost of such a system is considered, due to their route, nighttime operations, and size or number of passengers. The four classes include "very large" small passenger vessels with overnight accommodations for more than 49 passengers; vessels operating on oceans, coastwise, and Great Lakes routes carrying more than 49 passengers; vessels carrying more than 150 passengers; and DSC certified for nighttime or restricted visibility operations. The risk of collision or other casualty due to improper navigation would be decreased if radar is installed and properly used on the four classes of vessels addressed by this proposal.

As a result of the PILGRIM BELLE casualty, the National Transportation Safety Board (NTSB) recommended that "very large" small passenger vessels with overnight accommodations for more than 49 passengers operating on any route other than rivers, be equipped with a gyrostabilized radar. The Coast Guard does not believe that the benefits of a gyrostabilized radar on a small passenger vessel would outweigh the cost. However, the Coast Guard is proposing that all "very large" small passenger vessels with overnight accommodations for more than 49 passengers be equipped with radar which need not be gyrostabilized. The Coast Guard is proposing that even the "very large" small passenger vessels operating on river routes have radars to decrease the risks involved in navigating long stretches of rivers in restricted visibility.

Similarly, vessels operating on oceans, coastwise, or Great Lakes routes and carrying more than 49 passengers, and all vessels carrying more than 150 passengers, face increased risks as a result of their routes and size. Vessels certificated to operate on oceans, coastwise, or Great Lakes routes often do so at night or may encounter unexpected restricted visibility conditions or poor weather. Such vessels primarily include party fishing boats and crew boats. Vessels carrying more than 150 passengers are normally large vessels with less maneuverability than smaller vessels. Consequently, they would benefit from earlier warning of impending collisions as well as improved navigational ability. A vessel operating on an oceans, coastwise, or Great Lakes route carrying more than 49 passengers, or carrying more than 150 passengers on any route, but which does not have overnight accommodations for more than 49 passengers, would not be required to have radar if the OCMI determines that the operation of the vessel involves minimal navigational risk due to such factors as limited vessel traffic in the area or limited risk of sudden reduced visibility.

Proposed § 184.404 also requires radar on all dynamically supported craft certificated for nighttime or restricted visibility operations as does the IMO "Code of Safety for Dynamically Supported Craft."

Since most existing vessels affected by this proposal are already fitted with radar at the option of the owner, proposed § 184.404 is expected to be of minimal cost to the small passenger vessel industry. An estimated 82% of vessels carrying more than 49 passengers on an ocean, coastwise, or Great Lakes route are presently equipped with radar. An estimated 67% of vessels carrying more than 150 passengers regardless of route are equipped with radar. The average cost of a marine radar system acceptable under this proposal, including installation, which would probably be installed on a "very large" small passenger vessel or a small passenger vessel carrying more than 150 passengers, is $3000.

3. Section 184.408 Fathometers. Proposed § 184.408 requires a fathometer on all vessels of more than 65 feet in length and each DSC, except an air cushion vehicle. Subchapter T does not presently require fathometers. A fathometer is a relatively inexpensive navigational device that can improve the safety of navigation. As a result of the PILGRIM BELLE grounding, the NTSB recommended that all passenger vessels on routes other than rivers be equipped with fathometers. The Coast Guard does agree that properly used fathometers could prevent many groundings. This proposal is expected to have minimal economic impact since more than 50% of vessels of more than 65 feet in length are equipped with fathometers. The average cost of an acceptable fathometer, including installation, is $200.

4. Section 184.410 Electronic position fixing devices. Proposed § 184.410 requires each vessel on a oceans route to be equipped with an electronic position fixing device capable of providing accurate fixes for the area in which the vessel operates. Electronic position fixing equipment enables a vessel to accurately locate its position in all weather conditions. An acceptable device could include a LORAN receiver, a satellite navigation receiver, or another device which provides accurate fixes for the area in which the vessel operates. This proposed requirement is expected to have a minimal cost impact on the small vessel industry since most vessels in ocean service are presently outfitted with electronic position fixing devices. The average cost of a LORAN unit, including installation, is $700.00.

Section 184.506 Emergency broadcast placard. Proposed § 184.506 requires a placard to be placed next to all radiotelephones to direct a person unfamiliar with radio procedures on the use of the radio in an emergency. This requirement would apply to new and existing vessels. The requirement was proposed by the NTSB as a result of the FANTASY ISLANDER casualty when a person unfamiliar with radio procedures had to make an emergency broadcast. The proposed contents of the placard were derived from the Vessel Safety Manual published by the North Pacific Fishing Vessel Owner's Association and Field Operation Bulletin No. 2 of the Federal Communications Commission. The estimated cost of the proposed placard is $10.00.

Section 184.602 Internal communications. Proposed § 184.602 (a) and (b) are new requirements for a permanently installed, fixed means of communications between the operating station and the location where a backup means of controlling the propulsion machinery is accomplished or where auxiliary steering means are located. This would ensure that the person in charge of navigating the vessel is able to communicate with the person manning a backup control station required by proposed § 183.510 or the auxiliary steering stations required by proposed § 182.600(c). Satisfactory voice communication would be acceptable instead of a fixed system on many vessels. Additionally, the proposed requirements would not be applicable to twin screwed vessels with pilothouse control for both engines. Since most small passenger vessels are twin screwed, these proposals for internal communication would only apply to a small number of small passenger vessels. Means of communication which would satisfy the proposed requirements range from a simple sound tube to a three way, talk-back speaker system which would cost approximately

$1500.00 on the size vessel which would have to comply.

Proposed § 182.600(c) would replace existing § 184.35–1 without any substantive changes being made.

Section 184.610 Public address (PA) systems. Proposed Section 184.610 requires a PA System on certain vessels. This proposed requirement would be applicable to existing vessels. This requirement is based on NTSB and Coast Guard recommendations as a result of the casualties involving the PILGRIM BELLE, YANKEE, MISSISSIPPI QUEEN, and other vessels. On vessels with more than one deck, it is often very difficult for the master to quickly and adequately notify all passengers of an emergency situation without a PA system. For the same reason, a PA system will be required on vessels which have only one passenger deck but on which passengers may be sleeping in separate compartments. A PA system, which may be used to sound the general alarm required by proposed § 183.550, is necessary to quickly arouse and advise such passengers. A PA system would also help ensure all passengers hear the passenger safety orientation required by proposed § 185.506.

Under the proposal, small passenger vessels of not more than 65 feet carrying not more than 49 passengers would not be required to have a PA system, even if the vessel is otherwise required to have one, if the OCMI determines that all passengers can satisfactorily hear public announcements made from the operating station. A bullhorn may also be acceptable as the PA system on a vessel of not more than 65 feet in length.

The estimated average cost of a PA system on a vessel of not more than 65 feet is $100.00; on a vessel of more than 65 feet it is $500.00. Many small passenger vessels are already equipped with PA systems hence the total cost of this proposed requirement on the small passenger vessel industry is reduced.

Section 184.710 First aid kit. Proposed § 184.710 requires a first aid kit on all new and existing small passenger vessels. This requirement is based on recommendations from Coast Guard personnel and the public, as well as from a casualty investigation. A first aid kit is necessary on small passenger vessels for use in treating minor injuries, especially those which occur while a vessel is underway and other first aid assistance is not readily available.

The Coast Guard previously considered a separate rulemaking requiring first aid kits but decided not to propose a change unless crew members were required to be trained in first aid. On October 16, 1987, the Coast Guard published an Interim Final Rule under CGD 81–059 (52 FR 38623) requiring applicants for issuance of original licenses to complete first aid and CPR courses.

The Coast Guard approved first aid kit, which may be used to comply with this proposal, is well equipped for most first aid needs and is specifically designed for the marine environment. An owner may make a first aid kit or choose any of a number of kits available on the market that contain equipment equivalent to or in excess of the Coast Guard kit equipment. The approximate cost of a Coast Guard approved first aid kit is $65.00.

Part 185—Operations

Section 185.115 Applicability to existing vessels. The regulations in this part would apply to existing vessels except as noted in § 185.115. Most of the requirements in proposed Part 185 are contained in existing regulations. Other proposed requirements are mandated by present law and are applicable to existing vessels, but have not previously been incorporated in regulations. Other proposed regulations are based on recommendations following casualty investigations and involve operational requirements for which compliance would result in the same costs for new or existing vessels.

Proposed § 185.115(b) allows the use of certain existing markings on equipment until such markings are no longer legible so that significant cost would not be incurred just to comply with minor changes in the contents or size of such markings.

Proposed § 185.115 (a) and (c) allow phase-in periods for existing vessels permitting sufficient time to comply with certain requirements including:

(1) Radar observers and operating manuals for dynamically supported craft;

(2) Station bills and passenger safety bills;

(3) Lifejacket placards; and

(4) Retroreflective tape on ring buoys and rescue boats.

Sections 185.280 and 185.282 Logbooks. Proposed § 185.280 incorporates the requirements of 46 U.S.C. 11301 that every vessel on a foreign voyage, except on voyages to Canada, maintain an official logbook. The requirements of the law are repeated in the proposed regulation for the convenience of the master.

Proposed § 185.282 requires that a vessel of more than 65 feet in length with overnight accommodations for more than 49 passengers, which is not on a foreign voyage, maintain a log or record, which need not be an official logbook, to make entries of tests and inspections required by law or regulation. This proposed regulation incorporates relevant provisions of NVIC 11–83 and 46 CFR 78.37–3(c). Since most large overnight passenger vessels already maintain such records for their own purposes, this regulation is expected to have little economic impact.

Section 185.304 Navigation underway. Proposed § 185.304 contains new requirements designed to ensure the safe navigation of a vessel. As a result of the PILGRIM BELLE casualty, the NTSB recommended that the Coast Guard require that masters and officers on vessels which have overnight accommodations for more than 49 passengers and operate on other than river routes to comply with navigation procedures similar to those found at 33 CFR 164.11. 33 CFR 164.11 contains navigational procedures applicable to vessels of 1600 or more gross tons operating on U.S. navigable waters. The existing regulations in 33 CFR 164.11 simply mandate procedures which most masters routinely perform and which are considered to be prudent seamanship. Because of the risks associated with carrying passengers, the Coast Guard is proposing that requirements in 33 CFR 164.11 applicable to small passenger vessels be incorporated into Subchapter T to ensure masters and watchstanding officers on small passenger vessels are aware of their responsibilities. Since the proposed requirements actually incorporate procedures that should presently be practiced by all masters and deck officers, no economic impact is expected.

Section 185.410 Watchmen. Proposed § 185.410 modifies the existing requirements for patrolmen to better correspond with the statutory requirement of 46 U.S.C. 8102(a) (Watchmen). Section 8102(a) of Title 46 states "The owner, charterer, or managing operator of a vessel carrying passengers during the nighttime shall keep a suitable number of watchmen in the vicinity of the cabins or staterooms and on each deck to guard against and give alarm in case of fire or other danger." Existing § 185.22.1 requires roving patrolmen only when passenger lounge areas below the main deck are occupied.

Proposed § 185.410(a) reiterates the specific statutory requirement for a small passenger vessel of more than 65 feet in length with overnight accommodations for more than 150 passengers. Hence, a watchman would have to be stationed on each deck on such very large small passenger vessels. Other small passenger vessels are only required by proposed § 185.410(b) to

have a suitable number of watchmen patrol throughout a vessel during the nighttime. A vessel owner must determine the number of watchmen suitable for the vessel. The OCMI will consider this number when placing minimum manning requirements on the vessel's COI. For most small passenger vessels one crew member on watch, assigned to periodically patrol throughout the vessel, would be sufficient.

The Coast Guard interprets the statutory requirements of 46 U.SC. 8102(a) to permit a roving watchman, as long as each deck is patrolled because:

(1) The size of such vessels allows a single watchman to rapidly patrol a vessel and guard against and give alarm in case of a fire or other danger; and

(2) The proposed requirements in Part 181 for fixed extinguishing systems, fire or smoke detecting systems, and fire alarms, and in Part 182 for bilge level alarms, allow remote monitoring for emergency conditions aboard the vessel.

The proposed requirement for a watchman will not increase the operating cost for most small passenger vessels since a crew member already on watch can be used to periodically patrol the vessel. Most masters already have such patrols conducted, even for above deck spaces, for safety purposes. The proposed requirement would result in increased costs for a small passenger vessel of more than 65 feet in length with overnight accommodations for more than 150 passengers since a watchman would have to be stationed on each deck. However, a survey of vessels in the Marine Safety Information System did not reveal any existing small passenger vessels which have overnight accommodations for more than 150 passengers.

Section 185.502 Crew and passenger lists. Proposed § 185.502 is a new requirement based on 46 U.S.C. 3502 as well as recommendations made by both the NTSB and Coast Guard Marine Boards of Investigation. 46 U.S.C. 3502 requires the owner, charterer, managing operator, or master, or individual in charge to keep a correct list of passengers that embark and disembark from day to day on:

(1) Vessels arriving from foreign ports (except at U.S. Great Lakes ports from Canadian Great Lakes ports);

(2) Seagoing vessels in the coastwise trade; and

(3) Passenger vessels making voyages of more than 300 miles on the Great Lakes except from a Canadian to a United States port.

The NTSB and Coast Guard Marine Boards of Investigations recommended the preparing and depositing ashore of a list of passengers and crew before a small passenger vessel gets underway as a result of the following casualties: JOAN LA RIE III, YANKEE, FISH-N-FOOL, MERRY JANE, and SAN MATEO.

During the search and rescue operation involving these five casualties there were difficulties in determining how many persons may have been missing. Similar difficulties have occurred following many other casualties.

In consideration of 46 U.S.C 3502 and the five casualties mentioned above, the Coast Guard is proposing that the master of a vessel on certain voyages prepare or have prepared a list of the names of all persons aboard including crew, passengers, and non-paying guests. Recommendations have been made that names and addresses of persons be recorded. To minimize the record keeping burden, the proposed regulations only require that the names of persons be recorded since that is the primary information needed in an emergency. Additional information may be recorded if desired. The primary purpose of the list is to identify the number and names of persons on a vessel in an emergency, although 46 U.S.C 3502 provides that lists and counts prepared under the section are open to the inspection of designated officials of the Coast Guard and the Customs Service at all times.

A crew and passenger list would be prepared for vessels departing on an oceans voyage, a coastwise voyage, or a Great Lakes voyage except a ferry operating on the Great Lakes on a voyage of less than 30 minutes, overnight voyages by any vessel with overnight accommodations, and any other vessels arriving from a foreign port except a Canadian port. The list would be required to be deposited ashore, prior to a vessel leaving its berth, either by being hand carried or by radio or other electronic transmission. The list could be left in a well marked lock box at the vessel's departure dock, at an office which is readily identifiable with the vessel such as a company office or a port captain's office at or near the dock, or at another location of which the owner notifies the OCMI.

As a result of the YANKEE casualty, a recommendation was made that a list of names be made and delivered ashore for all vessels making voyages on bays and sounds. The proposed regulations do not require a crew and passenger list for all vessels on such routes because of the large number of passengers making such voyages and the large cost of recording such passengers, the normally rapid response time for emergencies in most bays and sounds, and the shorter distance a vessel normally goes from a harbor of safe refuge when operating only in bays and sounds. However, comments are specifically requested on the possible need for passenger lists for operations on all bays and sounds or specific bays and sounds which may present hazards similar to many Great Lakes or coastwise routes.

Vessels like the YANKEE, which carry passengers in overnight accommodation spaces, would be required to prepare crew and passenger lists whenever on overnight voyages, regardless of the route, because of the distances they often operate from emergency services on such voyages.

Comments are specifically requested on the appropriateness of requiring crew and passenger lists for most small passenger vessels operating on the Great Lakes especially in consideration of 46 U.S.C. 3502 which only mandates such lists for vessels on voyages of more than 300 miles. Lists for such vessels are proposed based on NTSB recommendations and the hazardous sea conditions periodically experienced on the Great Lakes.

The cost of this proposal, which has partially been mandated by law, is significant. The estimated cost of preparing the proposed required list is $7.60 per year for each person that a small passenger vessel is permitted to carry.

Section 185.504 Passenger count. Proposed § 185.504 requires that the master of a vessel, except those subject to § 185.502, keep a correct, written count of the number of passengers who are received or embark on the vessel and are delivered or disembark the vessel. This proposal also reflects the requirements of 46 U.S.C. 3502. Although neither the law nor the proposed regulation require that a written record of the count be kept ashore, the depositing of a trip plan ashore including the number and names of people aboard the vessel, prior to departure, is a normal safe boating practice. The requirement for a passenger count is not considered to impose any additional costs to vessel owners because:

(1) The records kept by vessel owners on the number of passengers carried for revenue purposes may be used to comply with the requirement; and

(2) A passenger count is presently required by statute.

Section 185.506 Passenger safety orientation. Proposed § 185.506 requires that before a vessel gets underway with passengers, an audible announcement must be made to the passengers about

safety procedures and equipment aboard the vessel. Existing § 185.25–1(d) gives the master of a small passenger vessel the option of making a safety orientation announcement before getting underway or providing placards which show passengers the location of life preservers, the proper method of donning them, the type and location of all lifesaving devices carried, and the location and contents of the required emergency checkoff list. The existing rule, published in the **Federal Register** on February 19, 1980 (45 FR 11108), was prompted by the multiple loss of life upon the sinking of the small passenger vessel PEARL C.

Since publication of the existing rule, the NTSB and Coast Guard Marine Boards of Investigation have repeatedly recommended that passenger safety orientations be required to be made by a public announcement and, in some cases, include the actual demonstration of the donning of lifejackets. The recommendations were made as a result of several casualties including, but not limited, to the SAN MATEO, JOAN LA RIE III, MERRY JANE and the FISH-N-FOOL.

In all but one of these casualties, public announcements were not made nor were suitable placards provided in accordance with the existing regulations.

The Coast Guard agrees that placards alone are insufficient to help ensure passengers are aware of safety procedures and equipment on a small passenger vessel. Placards may often be ignored or go unnoticed by passengers. Information more applicable to the passenger clientele aboard a small passenger vessel for a particular voyage can be better presented in public announcement than by placards. Public announcements would also ensure that passengers will be better prepared to respond to the instructions of crew in an emergency.

The Golden Gate Fishermen's Association, which represents commercial passenger fishing vessels and marine recreational anglers in Northern California, has strongly urged the Coast Guard to make public safety orientation announcements mandatory.

In response to the notice of proposed rulemaking on the existing regulation on safety orientation (43 FR 28426), five comments were received alleging that a safety orientation announcement would create fear and panic among passengers. The Coast Guard replied then, and continues to emphasize, that each passenger must be provided with basic information regarding emergency procedures and lifesaving equipment. Fear and panic are more logically a result of lack of information about, familiarity with, and understanding of vessel operations and available equipment. Audible public announcements and demonstrations are the best way to ensure knowledge and familiarity.

The revised safety orientation regulation in this notice would be applicable to all small passenger vessels. The Coast Guard realizes there are many factors which affect the ease of making safety orientation announcements on the many different types of small passengers vessels. The proposed rule requires that "suitable" public announcements be made covering specific topics. The length and detail of the announcement may vary depending on the type of vessel, equipment, route, and passengers. In view of the time a demonstration would take, a demonstration of the proper donning of a lifejacket is required only on vessels going on an ocean or coastwise voyage or transiting a regulated navigation area. Although demonstrations are encouraged, announcements on other vessels need only include simple verbal instructions on donning of a lifejacket with reference to the lifejacket placard which would be required by proposed § 185.516.

Because mandatory public announcements should not cause any appreciable delay in a small passenger vessel getting underway, the cost of this proposed requirement to the small passenger vessel industry is expected to be minimal.

Section 185.508 Wearing of lifejackets. Proposed § 185.508 requires that the master ensure that passengers don lifejackets under certain conditions. This proposed regulation is based upon recommendations of the NTSB following the PEARL C, SAN MATEO, and MERRY JANE casualties. Passengers and crew members suddenly entered the water as a result of the capsizing or near capsizing of these vessels as they crossed hazardous bars. If passengers had been required to wear lifejackets on the MERRY JANE and PEARL C, 18 deaths may have been prevented.

The emergency checkoff list required to be posted on a small passenger vessel by existing § 185.25–5 contains the statement: "Have passengers put on life preservers if the going becomes very rough or you are about to cross a hazardous bar." This statement on the checkoff list serves to remind the crew and passengers of the type of situations when lifejackets should be worn. However, existing Subchapter T does not contain a specific requirement on when lifejackets must be worn.

The master of a vessel is primarily responsible for operational decisions affecting the safety of the vessel and its passengers. This normally includes the responsibility to determine when sea conditions or the condition of the vessel are hazardous enough to require the donning of lifejackets to decrease possible risks. However, certain conditions are predictably hazardous enough to require the donning of lifejackets.

Proposed § 185.508(a) requires a master to have passengers don lifejackets when such possible hazardous conditions exist. Such hazardous conditions include: Transiting a bar or inlet through dangerous swells or breaking waves; severe weather; a fire or flooding which could lead to evacuating the vessel; and when the vessel is being towed.

Consideration was given to proposing that passengers also be required to don lifejackets when a small passenger vessel is within a regulated navigation area under certain conditions, as designated in 33 CFR Part 165, Subpart F. Coast Guard District Commanders would designate the conditions and areas. However, since District Commanders are already authorized by 33 CFR 165.11(b) to establish operating conditions for vessels in an area which is determined to have hazardous conditions, it is not necessary to repeat this authorization in Subchapter T.

The cost of the requirements in proposed § 185.508 to the small passenger vessel industry would be negligible, since the regulation would impose no additional equipment or time requirements on a vessel.

Section 185.510 Emergency instructions. Proposed § 185.510 requires the posting of an Emergency Instructions placard with contents similar to those in the recommended emergency checkoff list required by existing § 185.25–1(b). The proposed regulation emphasizes that the emergency instructions must address the particular needs of each individual vessel. Recommended emergency checkoff lists posted on an existing vessel will be acceptable as emergency instructions under the proposed regulation providing the lists contain instructions applicable to the vessel.

Section 185.514 Station bill. Proposed § 185.514 requires a crew station bill on certain large vessels. This proposal mandates that "very large" small passenger vessels with overnight accommodations for more than 49 passengers comply with the requirements of 46 CFR Subpart 78.13 on the content of a station bill, assignment

of duties, emergency signals, an emergency squad, and instructions. Compliance with 46 CFR Subpart 78.13 is necessary due to the length of the voyage and actual size of such vessels, the number of passengers and crew members, and the complexity of bilge, fire protection, and lifesaving systems. Presently, NVIC 11–83 indicates that the requirements of 46 CFR 78.13 are normally applied to "very large" small passenger vessels with overnight accommodations for more than 50 passengers.

Other small passenger vessels, which do not normally sail on overnight voyages, should also have station bills for the crew because of their size and complexity. Station bills can be required by the OCMI or the Commandant on such vessels under existing § 175.05–1(b) or § 175.05–15(b). Requiring, by regulation, that specific vessels have station bills will reduce the inconsistencies that occur among marine inspection zones. The number of crew members on a vessel is a primary factor in determining what vessel needs a crew station bill.

On a vessel with a small crew, the master should be able to direct the actions of the other crew members in an emergency, providing that the crew members have been properly trained and instructed. With small crews, each crew member may have to perform a variety of functions, and it would be impractical to specify all those functions on one station bill. For vessels with larger crews, a station bill is both beneficial and necessary. As crew size increases, it becomes more difficult for the master to assign duties to each crew member as an emergency occurs. With a large crew, greater specialization of response action is also possible. Therefore, the Coast Guard is proposing that a station bill be posted on all vessels of more than 65 feet in length with a required crew of more than four persons, including the master. A station bill on such vessels will reduce confusion and the time it takes crew members to respond in an emergency.

The contents of the station bill for a vessel with a crew of four persons would not be as detailed as the bill for a "very large" small passenger vessel with overnight accommodations for more than 49 passengers. Four crew members was chosen as the breakpoint since most vessels with four crew members include two licensed individuals, who should be qualified in emergency response, and two deckhands. As the number of crew members increases above four, the percentage of crew qualified in emergency response decreases and the need for assigned responsibilities increases.

Section 185.515 Passenger safety bill. Proposed § 185.515 requires a passenger safety bill and proposed § 185.516 requires instructions on lifejacket use to be posted in passenger staterooms or cabins on "very large" small passenger vessels with overnight accommodations for more than 49 passengers. Vessels which are subject to 46 CFR Subchapter H, including small passenger vessels to which NVIC 11–83 is applicable, must presently have stateroom notices on emergency actions and lifejacket use for passengers. The NTSB emphasized the need for such notices following the YANKEE—HARPER TAPPER collision in 1983. The required contents of passenger safety bills, listed in proposed § 185.515, are more applicable to "very large" small passenger vessels than the contents of stateroom notices required by § 78.47–7 of Subchapter H.

Section 185.516 Lifejacket placards. Proposed § 185.516 requires that lifejacket placards be posted in conspicuous places on all small passenger vessels. The lifejacket placards are needed to help orient passengers in the use of lifejackets. The estimated cost of this requirement for each small passenger vessel is $10.00.

Section 185.518 Inflatable liferaft placard. Proposed § 185.518 requires that, on each vessel equipped with inflatable liferafts, instruction placards on the use of the rafts be posted on each raft and in conspicuous places in the vessel. This proposal is a new requirement only for those vessels which would be required, for the first time, to have inflatable liferafts by proposed Subpart E of Part 180. Existing § 185.25–7 requires the posting of instruction placards in conspicuous places on all vessels equipped with liferafts. Additionally, all approved liferafts are required to have instructions posted on them in accordance with 46 CFR 160.051–8(b).

The posting of instruction placards for liferafts in conspicuous places is necessary so that passengers and crew can become familiar with the rafts prior to an emergency. However, on vessels where rafts are stowed in areas accessible to passengers and where the instruction placards on the raft containers are readily visible, additional placards in other locations on the vessel may not be necessary. The estimated cost of this requirement on applicable small passenger vessels is $10.00 per vessel.

Sections 185.520 and 185.524 Drills, instructions, and training. Proposed §§ 185.520 and 185.524 revise existing § 185.25–10 (Drills) by providing minimum standards for training and drills. Presently, masters on all small passenger vessels are required to conduct drills and instructions to ensure all crew members are familiar with their duties. NVIC 11–83 states that 46 CFR 78.17, which contains specific fire and boat drill requirements, is normally applied to "very large" small passenger vessels with overnight accommodations for more than 50 passengers.

Proposed § 185.520(b) includes minimum intervals at which abandon ship drills must be held on vessels having more than four survival craft and on "very large" small passenger vessels with overnight accommodations for more than 49 passengers. The masters of other vessels must still determine how often such drills are necessary on their vessels, but it is still mandatory to periodically hold drills. Four survival craft is used as a breakpoint since as a vessel exceeds that number it becomes increasingly more difficult for a master to direct an evacuation and evacuation takes more time. Therefore, it becomes more imperative that each crew member know his job. Establishing these minimum intervals will give the master a baseline to determine what drill interval is sufficient for his vessel.

Proposed § 185.520(c) specifies what an abandon ship drill must include. It also requires the summoning of passengers on any vessel on an overnight voyage in order to give the crew experience handling passengers in an emergency, as well as to provide passengers a better safety orientation.

Proposed § 185.520(e) requires the actual use of rescue boats, when installed, during periodic man overboard drills. These proposed regulations on abandon ship, man overboard, and fire drills do not impose any new cost to small passenger vessels since the proposed regulations only list minimum standards for drills presently required.

Section 185.602—Hull Markings. Proposed § 185.602 contains some requirements not presently contained in Subchapter T. Proposed paragraph (b) of this section requires draft or loading marks on all vessels on which a stability analysis must be done under Parts 170 and 171 of Subchapter S in accordance with proposed § 178.310.

Draft marks are presently required only on a small passenger vessel of at least 79 feet in length, the keel of which was laid on or after July 21, 1968, on a foreign voyage. Draft marks or loading marks are necessary to assist the master in ensuring a small passenger vessel complies with the draft and trim

requirements listed on the vessel's stability letter. This requirement is expected to cost approximately $80.00 per vessel.

Paragraph (d) of proposed § 185.602 requires that a small passenger vessel with more than one passenger deck post, at the entranceways to upper decks, any limits imposed by the vessel's stability letter on the number of passengers allowed on those decks. This proposed requirement incorporates the existing policy of many OCMIs and is not expected to impose any cost on the small passenger vessel industry.

Section 185.604 Lifesaving equipment markings. Proposed § 185.604 requires changes in the size of markings on some lifesaving equipment. The same lifesaving markings will be required by proposed Subchapter W.

This section proposes that each rescue boat and ring buoy be marked with retroreflective material to improve the ability to locate rescue boats and ring buoys in darkness. This requirement will also be included in proposed Subchapter W. The retroreflective material is expected to cost approximately $29.00 per rescue boat and $12.00 per ring buoy. Equipment on existing vessels would not have to be marked with the proposed markings until existing markings are no longer legible.

Under the proposal, retroreflective material would have to be installed on lifejackets, rescue boats, and ring lifebuoys in accordance with the arrangements specified by a proposed International Maritime Organization (IMO) resolution. The resolution, entitled "Installation of Reflective Tape on Lifesaving Equipment," is expected to be adopted by IMO in November, 1989. The advantage of incorporating this resolution by reference is that it will contain easily understood drawings indicating the required arrangement for retroreflective material.

The arrangement of retroreflective material required by the proposed IMO resolution is very similar to the arrangement of retroreflective material required on life preservers by existing § 180.25–25 and as recommended by the U.S. Coast Guard Navigation and Vessel Inspection Circular (NVIC) 01–87. If the proposed resolution is not adopted prior to issuance of the final rule under this docket, the Coast Guard intends to include specific regulations in Subchapter T on the arrangement of retroreflective tape based on existing § 180.25–25 and NVIC 01–87.

Subpart G—Operational Readiness. This subpart proposes minimum standards for the care of lifesaving equipment. It requires that owners and managing operators have the manufacturer's instruction manuals for certain lifesaving equipment manufactured after the effective date of the regulations available for use. Vessels of more than 65 feet in length must have the manuals aboard, since such vessels have sufficient storage space and may often go on extended voyages on which a master may need the instructions on the repair or maintenance of equipment. Specific maintenance and inspection intervals, which owners and managing operators should already be following as good marine practice, are also proposed. This proposed section imposes no additional costs itself as the cost of maintaining any new equipment required on a small passenger vessel, such as an inflatable liferaft, has been calculated in the cost of the equipment.

Distribution Table

The following is a distribution table indicating where existing requirements in Subchapters S and T have been moved to, or if they have been deleted, by this proposal. Since Subchapter T is proposed to be completely revised, all existing requirements of Subchapter T are listed in this table. However, only those requirements of Subchapter S actually proposed to be relocated or deleted have been listed.

In the left column of the distribution table, designated "Old Section", are listed the existing subparts, sections, or paragraphs of Subchapters S and T that are being revised. In the right column, designated "New Section", is listed the location of the proposed requirement that pertains to the existing (old) subpart, section, or paragraph. If the Coast Guard proposes that the contents of an existing subpart, section, or paragraph be deleted, the reason for such deletion is indicated in the new section column by the words unnecessary, obsolete, or unsatisfactory.

Old section	New section
SUBCHAPTER S	
170.105(b)(1)	Unnecessary.
170.160(b)(1)	Unnecessary.
170.173(d)	170.173(f).
171.020	Unnecessary.
171.030(a)	178.310(a).
171.030(b)	178.320(a).
171.030 (c), (d), (e), (f), (g), (h).	178.330 (c), (d), (e), (f), (g), (h).
171.035	Unsatisfactory.
171.040(a)(1)	179.210.
171.040(a)(2)	179.212.
171.040(a)(3)	179.220.
171.040(b)	179.310.
171.040(c)	179.320(b).
171.043	179.220.
171.050	171.050(a).
171.110(b)	Unnecessary.
171.114	179.320 (c), (d).
171.115(b)	Unnecessary.
171.119	179.350.
171.124	179.360.
171.130(b)	Unnecessary.
171.140	178.410.
171.145	178.420; 178.450.
171.150	178.430; 178.450.
171.155	178.440.
SUBCHAPTER T	
175.01–1	175.100.
175.01–3	175.900.
175.05–1(a)	175.110.
175.05–1(b)	Unnecessary.
175.05–1(c)	175.120.
175.05–1(d)	185.356.
175.05–1(e)	Unnecessary.
175.05–2	Unnecessary.
175.05–3	175.110.
175.05–5 (a)–(c), (e)	Unnecessary.
175.05–5(d)	175.112.
1705–05–15	175.200.
175.07–1	175.122.
175.10–1 to 175.10–40	175.400.
175.15–1	175.540.
175.20–1	175.500.
175.20–5	175.510.
175.25–1	175.550.
175.27–1	175.600.
175.27–5	175.600(c)(2).
175.27–20	Obsolete.
175.30–1	175.560.
175.35–1	Unnecessary.
176.01–1	176.100.
176.01–3	176.100.
176.01–5	176.103.
176.01–10	176.105.
176.01–15	176.107.
176.01–20	176.110.
176.01–25	176.113.
176.01–27	176.202.
176.01–30	176.204.
176.01–35	176.120.
176.01–40	176.302.
176.01–45	176.310.
176.05–1	176.400.
176.05–5	176.402.
176.05–10(a)	176.404.
176.05–10(b)	Unnecessary.
176.10–1	176.500.
176.10–5	176.502.
176.15–1	176.600.
176.15–5	176.610.
176.15–10	176.612 (a), (b).
176.20–1	176.700 (a), (b).
176.20–5	176.700(d).
176.25–1	176.800.
176.25–5	176.802.
176.25–10	176.804.
176.25–15	176.806.
176.25–20	176.808.
176.25–22	176.808.
176.25–25	176.810.
176.25–27	176.810.
176.25–30	176.812.
176.25–32	176.812.
176.25–35	176.814.
176.25–40	176.816.
176.25–45	176.818.
176.25–50	176.830.
176.30–1	176.840.
176.35–1	176.900; 176.920.
176.35–5	175.400.
176.35–10	175.400.
176.35–15	175.910.
176.35–20	176.920(d).
176.35–25	176.302.
176.35–30	176.910 (c), (d); 176.920(d).
177.01–1	177.115.
177.01–5	177.100.
177.05–1	177.202.

Old section	New section
177.05-3	177.202.
177.05-5	177.210.
177.10-1(a)	177.300; 177.310.
177.10(1)(b)	177.320.
177.10-5	177.400.
177.13-1	Unnecessary.
177.15-1	177.500.
177.20-1	177.600 (a), (b).
177.20-5	177.600 (d), (e).
177.25-1	177.720.
177.30-1	177.820.
177.30-5	177.840.
177.30-7	177.400(h); 177.800; 177.810.
177.35-1	177.900.
177.35-5	177.920.
177.35-10	177.940.
177.35-15	177.960.
180.01-1	Unnecessary.
180.01-5	Unnecessary.
180.05-1(a)	175.800.
180.05-1(b)	Unnecessary.
180.05-5(a)	180.25(a).
180.05-5(b)	180.72.
180.10-1(a)	180.200.
180.10-1(b)	Obsolete.
180.10-5	180.202; 180.204.
180.05-15	180.204.
180.10-20	180.206.
180.10-25	180.208.
180.10-30	180.200.
180.10-35	180.210.
180.15-1	180.175 (c), (e).
180.15-5	180.175(f).
180.15-10	180.175(f)(2).
180.20-1	180.130; 180.137; 180.175(f).
180.20-5	185.604.
180.25-1	180.71.
180.25-5	180.71.
180.25-10	180.78.
180.25-15	185.604.
180.25-20	180.75.
180.25-25	185.604(i).
180.30-1	180.70.
180.30-5	180.70.
180.30-10	180.70.
180.35-1	180.68.
180.35-5	180.68.
180.35-10	180.68(d).
180.40-1	180.64.
181.01-1(a)	Unnecessary.
181.01-1(b)	181.115.
181.01-5	Unnecessary.
181.05-1	175.800.
181.05-5	181.120.
181.10-1	181.300 (a), (b), (c), (d).
181.10-5	181.610.
181.15-1	181.310(a).
181.15-5 (a), (b)	181.310(a).
181.15-5(c)	181.310(b).
181.15-10 (a), (g)	181.320(a).
181.15-10 (b), (e)	181.320 (b), (c).
181.15-10(c)	181.320(c).
181.15-10 (d), (f)	181.320 (b), (c).
181.20-1	181.400(a).
181.20-5(a)	181.400(a); 181.410(a).
181.20-5(b)	181.400(a)(2).
181.20-10	181.410(f).
181.20-15 (a), (c)	181.410(b).
181.20-15(d)	185.612(a).
181.20-20	181.410(d).
181.20-25	181.410(f).
181.20-30	181.410(c).
181.20-35	177.600(b); 182.460(k)(1); 182.465(h).
181.25-1	181.400(f).
181.25-5	181.430.
181.30-1	181.500.
181.30-5	181.510.
181.30-10 (a), (b)	181.520.
181.30-10(c)	Unnecessary.
181.30-12	181.500(d).
181.35-1	181.600.
182.01-1	182.115.
182.01-5	182.100.
182.05-1	182.200.
182.05-5	182.220.
182.10-1	182.300.
182.10-5	182.310; 182.330.
182.15-1	182.400.
182.15-5	182.405; 182.410.
182.15-7	182.415.
182.15-10	182.420.
182.15-15	182.425.
182.15-20	182.420; 182.430.
182.15-25	182.440.
182.15-30	182.445.
182.15-35	182.450.
182.15-40	182.455.
182.15-45	182.460.
182.20-1	182.400.
182.20-5(a)	182.410(a).
182.20-5(b)	182.410(c).
182.20-10	182.420.
182.20-15	182.425.
182.20-20	182.430.
182.20-22	182.435.
182.20-25	182.440.
182.20-30	182.445.
182.20-35	182.450.
182.20-40	182.455.
182.20-45	182.465.
182.20-50	182.470.
182.25-1	182.500.
182.25-5	182.510.
182.25-10	182.520.
182.25-15	182.540.
182.30-1	182.600(c).
182.30-5	182.600(e); 182.620 (b), (c).
182.35-1	177.400(c).
182.40-1	182.720.
182.40-5	182.710.
182.40-10	182.720.
183.01-1	Unnecessary.
183.01-5	183.100.
183.01-10	Unnecessary.
183.01-15	175.600.
183.05-1	Unnecessary.
183.05-5	183.320(c).
183.05-10	183.320.
183.05-15	183.330.
183.05-20	183.350; 183.352; 183.354.
183.05-25	183.380(i).
183.05-30	183.380.
183.05-35	183.210 (b), (c); 183.410.
183.05-40	Unnecessary.
183.05-45	183.340.
183.05-50	183.340.
183.10-1	Unnecessary.
183.10-5	183.320.
183.10-10	183.210; 183.330.
183.10-15	183.330.
183.10-20	183.340.
183.10-25	183.380.
183.10-30	183.370.
183.10-35	183.380.
183.10-40	183.380.
183.10-45(a)	184.210.
183.10-45(b)	184.220.
183.10-50	183.390.
184.01-1	Unnecessary.
184.01-5	184.100.
184.05-1	184.200.
184.10-1	184.202.
184.20-1	184.402.
184.25-1	184.502.
184.30-1	183.430.
184.30-5	183.432.
184.35-1	184.602(c).
184.40-1	180.72.
184.40-5	180.72.
184.40-10	180.78(b).
184.40-15	176.808 (a)(2), (d), (f).
185.01-1	Unnecessary.
185.01-5	185.100.
185.05-1	185.900; 185.910.
185.10-1	185.402.
185.12-1	176.306.
185.15-1	Subpart B of Part 185.
185.17-1	185.370.
185.19-1	185.250.
185.20-1	185.310.
185.20-10	185.320.
185.20-15	185.330.
185.20-20	185.340.
185.20-25	185.350.
185.20-30	185.360.
185.20-35	185.420.
185.22-1	185.410.
185.25-1	185.510.
185.25-5	185.512.
185.25-7	185.518.
185.25-10	185.520(a).
185.25-15	185.530.
185.25-20	185.722(b); 185.726(d).
185.30-1	185.602(a).
185.30-5	185.604.
185.30-10	185.604(g).
185.30-15	185.606.
185.30-20	185.608.
185.20-25	185.610.
185.30-30	185.604(c).

Derivative Table

The following is a derivative table of the proposed and corresponding existing regulations in Subchapters S and T. In the left column, designated "New Section", are proposed paragraphs, sections, and subparts of this rulemaking. In the middle column, designated "Old Section", is the paragraph, section, or subpart of Subchapters S and T where the regulation listed in the left column is currently published. If the word "Revised" is included, it indicates the proposal contains a change in the current rule other than a minor change involving grammar, format, elimination of archaic language, or authority and reference citations which do not affect the basic requirements of a section. For certain new sections there are no corresponding existing sections because the requirement being proposed would be established by this rulemaking. These sections and subparts have the word "New" listed in the "Old Section" column. The right column, "Reference", lists sources used in developing the proposed regulations. The list of references is not all inclusive. It does not contain policy letters and investigation reports which are not readily available for review. Sources listed in the right column are abbreviated as follows:

(1) "CGD" means Coast Guard Regulatory Docket;

(2) "NVIC" means U.S. Coast Guard Navigation and Vessel Inspection Circular;

(3) "MSM" means the U.S. Coast Guard Marine Safety Manual;

(4) "IMO" means the International Maritime Organization's Code of Safety for Dynamically Supported Craft;

(5) "SOLAS" means the International Convention for the Safety of Life at Sea, 1974; and

(6) "Subch." means the specified subchapter from Chapter I of Title 46 of the Code of Federal Regulations.

Other abbreviations include references listed in § 175.600 of the proposed regulations. Individual numbers listed refer to specific sections in Title 46 of the Code of Federal Regulations unless preceded by another title designation.

New section	Old section	Reference
Subchapter S:		
170.055(h)(1)	New	
170.055(u)	New	46 U.S.C. 2101.
170.090(c), (d).	New	
170.173(a)(3), (a)(4).	New	
170.173(d), (e).	New	
170.173(f)	170.173(d)	
170.010(o)	New	46 U.S.C. 2101.
171.050(a)	171.050	
171.050(b)	New	
171.055 Graphs (f), (g), (h), (i), (j).	New	Graphs 173.063(a), (b), (c), (d), (e).
171.076	New	
171.077	New	
171.080(d)(5)	New	
Subchapter T:		
175.100	175.01-1(a), Revised.	
175.110	175.05-1, 175.053, Revised.	46 U.S.C. 3301-3303.
175.112	175.05-5(d), Revised.	
175.120	175.05-1(c)	
175.122	175.07-1	
175.124	New	IMO Annex, 175.15-1.
175.200	175.05-15	
175.400	175.10, Revised.	46 U.S.C. 2101; IMO; Subch. F, H, J, S.
175.500	175.20-1	
175.510	175.20-5	
175.530	New	
175.540	175.15-1	
175.550	175.25-1	
175.560	175.30-1	
175.600	175.27-1, Revised.	
175.800	175.10-1, 175.10-2, Revised.	
175.900	175.01-3	
176.100	176.01-1, 176.01-3, Revised.	46 U.S.C. 3311, 3313.
176.103	176.01-5, Revised.	
176.105	176.01-10	
176.107	176.01-15, Revised.	46 U.S.C. 3307.
176.110	176.01-20, Revised.	IMO.
176.112	New	
176.113	176.01-25, Revised.	IMO.
176.114	New	
176.116	New	
176.120	176.01-35	
176.202	176.01-27	46 U.S.C. 3313.
176.204	176.01-30	
176.302	176.01-40, 176.01-27(d), 176.35-25.	
176.306	185.12-1	
176.310	176.01-45	
176.400	176.05-1	
176.402	176.05-1, Revised.	46 U.S.C. 3305.
176.402(e)(8)	New	IMO.
176.404	176.05-10	
176.500	176.10-1	
176.502	176.10-2	
176.600	176.15-1, Revised.	
176.610	176.15-5, Revised.	
176.612(a), (b).	176.15-10	
176.612(c)	New	
176.630	New	
176.670	176.15-1(a)	
176.700(a), (b).	176.20-1, Revised.	NVIC 11-83; 78.33.
176.700(c)	New	
176.700(d)	176.20-5	
176.702	New	
176.704	New	NVIC 11-83; 78.33.
176.710	176.25-1(c), Revised.	
176.800	176.25-1	
176.802	176.25-5, Revised.	MSM.
176.804	176.25-10, Revised.	
176.806	176.25.15, Revised.	
176.808	176.25-20, 176.25-22, Revised.	
176.810	176.25-25, Revised.	
176.812	176.25-30, Revised.	
176.814	176.25-35, Revised.	
176.816	176.25-40	
176.818	176.25-45	
176.830	176.25-50	
176.840	176.30-1	
176.900(a), (b).	176.35-1(a), (b).	
176.900(c), (d), (e).	176.35-1(c), (d), (e), 176.35-20.	
176.910	176.35-15, 176.35-30.	
176.920(a), (b).	176.35-1(c), (d), (e).	
176.920(c), (d).	176.35-20	
176.930	New	SOLAS Ch. 1, Reg. 5, MSM II-9.I.1.
176.932	New	MSM II-9.I.2.b.
177.100	177.01-1	
177.115	177.115, Revised.	
177.140	New	Subch. H.
177.202	177.05-1, Revised.	IMO; Subch. H
177.206	New	
177.210	177.05-5, Revised.	
177.300	177.10-1(a), Revised.	
177.310	177.10-1(a), Revised.	
177.315	New	
177.320	New	IMO 3.1-3.6.
177.330	177.10-1(a), Revised.	169.309(b), (c).
177.340	177.10-1(b)	
177.400	177.10-5, 177.30-7(b), 182.35.	
177.400(a)	177.10-5(a)	
177.400(b)	177.10-5(b), Revised.	
177.400(c)	182.35-1, Revised.	ABYC A-3-70, NFPA 701.
177.400(d)	177.10-5(c)	
177.400(e)	New	
177.400(f)	177.30-7(d), Revised.	
177.400(g)	New	
177.400(h)	177.30-7(b), Revised.	
177.420(a), (b).	177.10-5(a-1), Revised.	NVIC 8-67.
177.420(c)	177.10-5(b), Revised.	
177.430(a)	177.10-5, Revised.	
177.430(b)	New	Subch. H.
177.432	New	Subch. H, NVIC 6-80.
177.434	New	Subch. H.
177.436	New	Subch. H, NFPA 436.
177.438	New	Subch. H.
177.439	New	NFPA 101.
177.440	New	NVIC 11-83.
177.450(a)	New	
177.450(b)	New	IMO 7.2.
177.500	177.15-1, Revised.	IMO 4.3, NFPA 101.
177.510	New	
177.520	New	
177.550	New	IMO 4.3.3, 4.3.4, 4.3.5, 4.3.6.
177.560	New	IMO 4.4.1, 4.4.2, 4.4.3, 7.2.5.
177.600	177.20-1, 177.20-5, 181.20-35, 182.15-45, Revised.	72.05-50(i).
177.610	New	Subpart 72.15, NVIC 6-80.
177.620	New	
177.700	177.25-1, Revised.	
177.710	New	
177.720	177.25-1	
177.730	New	NVIC 11-83.
177.800(a), (b), (c).	177.30-7, Revised.	
177.800(d), (e).	New	IMO 4.1.
177.800(f)	New	NVIC 11-83; 72.25-10v.
177.800(g)	New	
177.810(a)	New	
177.810(b), (c), (d).	177.30-7, Revised.	
177.820	177.30-1, Revised.	IMO 4.2.
177.840	177.30-5(a), Revised.	

New section	Old section	Reference
177.900	177.35-1, Revised.	MSM II-10.A.6, SOLAS.
177.920	177.35-5	
177.940	177.35-10	
177.960	177.35-15	
177.970	New	
177.1010	New	IMO 4.1.4, 14.6.
177.1020	New	
177.1030	New	IMO 14.2.1.
177.1110	New	IMO 14.2.1, .3.
177.1112	New	IMO 14.3.
177.1114	New	IMO 14.4.
177.1116	New	IMO 14.5.
178.115	New	170.001; 171.001.
178.125	New	IMO 2.
178.210	New	170.110; 170.120; NVIC 10-83.
178.220	New	170.110.
178.230	New	170.120.
178.310	New	171.020.
178.320	New	171.030.
178.330	New	171.030.
178.340	New	MSM IV-6.D.3.b.
178.410	New	171.140.
178.420	New	171.145.
178.430	New	171.150.
178.440	New	171.155.
178.450	New	
178.510	New	170.235.
179.115	New	170.001.
179.210	New	171.040; 171.060.
179.212	New	171.040; 171.060.
179.220	New	171.043.
179.230	New	171.080.
179.240	New	170.245.
179.310	New	171.040; 171.085.
179.320	New	171.040(e); 171.114.
179.330	New	170.255; 170.270; 171.114; MSM IV-6.I.
179.340	New	171.113.
179.350	New	171.119.
179.360	New	171.124.
179.400	New	171.105-171.109.
180.10	New	SOLAS; NVIC 11-83.
180.15	New	
180.25(a)	180.05-5a	
180.25(b)	New	
180.64	180.40-1	
180.68	180.35-1 to 180.35-3.	
180.70	180.30-1 to 180.30-10.	
180.71	180.25-1 to 180.25-10, 180.25-20.	
180.72	New	
180.75	180.25-20	
180.78	180.25-10, Revised.	
180.110	New	
180.130	180.20-1, Revised.	
180.137	180.20-1, Revised.	
180.150	New	Subch. H, W.
180.175	180.15-1	Subch. H, W.
180.200	180.10-30, Revised.	
180.202	180.10-5, Revised.	
180.204	180.10-5, 180.10-15.	
180.206	180.10-20	
180.208	New	
180.209	New	IMO 8.2.
180.210	180.10-35, Revised.	
181.115	181.01-1(b), Revised.	
181.120	181.05-5	
181.300(a), (b), (c), (d).	181.10-1(a), (b), (c), (d), (e), Revised.	
181.300(e), (f).	New	
181.310(a)	181.15-1	
181.310(b)	New	
181.320(a)	181.15-10(a), (g).	
181.320(b)	181.15-10(c), (d).	
181.320(c)	181.15-10(b), (d).	
181.320(d)	181.15-10(d)(2), (e).	
181.400(a)	181.20-1(a), Revised.	
181.400(a)(1)	New	
181.400(a)(2)	181.20-5(b), Revised.	
181.400(b)	New	
181.400(c)	New	
181.400(d)	New	
181.400(e)	New	NVIC 11-83.
181.400(f)	181.25-1, Revised.	
181.400(g)	New	
181.410(a)	181.20-5, Revised.	NVIC 6-72.
181.410(b)	181.20-15, Revised.	
181.410(c)	181.20-30, Revised.	
181.410(d)	181.20-20, Revised.	
181.410(e)	New	
181.410(f)	181.20-10, 181.20-25, Revised.	
181.410(g)	New	NVIC 6-72.
181.420	New	
181.425	New	
181.430	181.25-5, Revised.	
181.440	181.25-5, Revised.	
181.450	New	
181.460	New	
181.470	New	
181.480	New	
181.500	181.30, Revised.	
181.510	181.30-5	
181.520	181.30-10(a), (b).	
181.600	181.35-1	
181.610	181.10-5, Revised.	
182.100	182.01-5	
182.115	182.01-1, Revised.	
182.130	New	
182.200(a)	182.05-1	
182.200(b)	New	IMO 9.2.3.
182.210	New	IMO 9.1.7.
182.220	182.05-5	
182.300	182.10-1	
182.310(a), (b), (c).	182.10-5(a), (b), (c).	
182.320	New	54.01-5; 53-01-10.
182.330	182.15-5(d)	
182.400	182.15-1, 182.20-1.	
182.405(a)	182.15-5(c)	
182.405(b)	New	IMO.
182.410(a), (c).	182.15-5(a), (b), 182.20-5.	
182.410(b), (d).	New	IMO 9.
182.410(e), (f).	New	
182.415	182.15-7	
182.420	182.15-10, 182.15-20, 182.20-10, Revised.	MSM II 10.A.j; ABYC P-10.
182.422	New	56.60-96.
182.423	New	
182.425	182.15-15, 182.20-15, Revised.	ABYC P-2.
182.430	182.15-20, 182.20-20, Revised.	
182.435	182.20-22	
182.440	182.15-25, 182.20-25, Revised.	
182.445	182.15-30, 182.20-30, Revised..	
182.450	182.15-35, 182.20-35, Revised.	
182.455	182.15-40, 182.20, 40, Revised.	33 CFR 183.
182.458	New	ABYC H-25-86.
182.460	182.15-45, Revised.	
182.465	182.20-45, Revised.	
182.470	182.20-50, Revised.	
182.500	182.25-1, Revised.	NVIC 11-83.
182.510	182.25-5, Revised.	
182.520	182.25-10, Revised.	
182.530	New	
182.540	182.25-15	
182.600(a)	New	
182.600(b)	New	NVIC 11-83.
182.600(c)	182.30-1, 182.30-5(a).	
182.610	New	
182.620(a)	New	
182.620(b), (c).	182.30-5(a), (b).	
182.630	New	IMO 5.11.12.
182.700	New	
182.710	182.40-5, Revised.	
182.715	New	
182.720	182.40-1, 182.40-10, Revised.	NVIC 11-83.
182.730	New	56.60-96.
183.100	183.01-5, Revised.	
183.115	New	
183.130	New	
183.140	New	Subch. J, NEC.
183.200	183.01-5, Revised.	
183.210	183.05-35	
183.220	New	
183.310	New	
183.312	New	NVIC 11-83; 111.10.
183.318	New	NVIC 11-83; 111.10.

New section	Old section	Reference
183.320	183.05-5, 183.05-10, 183.10-5, Revised.	
183.330	183.05-15, 183.10-15.	
183.340	183.05-40, 183.05-45, 183.05-50, 183.10-20, Revised.	
183.350	183.05-20, Revised.	
183.352	New	111.15.
183.354	New	111.15.
183.360	New	111.33.
183.370	183.05-50(d), 183.10-30, Revised.	
183.380	183.05-25, 183.05-30, 183.10-25, 183.10-35, 183.10-40, Revised.	
183.390	183.10-50, Revised.	
183.410	183.05-35, 183.10-20(j), Revised.	
183.420	New	Navigation Rules.
183.430	184.30-1, Revised.	
183.432	184.30-5, Revised.	NVIC 11-83; IMO Code 12.7.
183.434	New	NVIC 11-83; 111.75-16.
183.440	New	IMO 17.1.4.
183.510	New	
183.520	New	
183.530	New	33 CFR 183.
183.540	New	
183.550	New	NVIC 11-83; 113.25.
184.100	184.01-5	
184.115	New	
184.200	184.05-1(a), Revised.	
184.202	184.05-1(c)	
184.210	183.10-45(a), Revised.	
184.220	183.10-45(b), Revised.	
184.240	New	CGD 83-013.
184.300	184.10-1	IMO 6.
184.310	New	IMO 6.
184.402(a), (b).	184.20-1	
184.402(c), (d).	New	
184.404	New	
184.406	New	
184.408	New	
184.410	New	
184.412	New	
184.420	185.20-35	
184.430	New	
184.502	184.25-1	
184.506	New	
184.602(a), (b), (d).	New	
184.602(c)	184.35-1	
184.602(e), (f).	New	IMO 14.7.
184.610	New	
184.620	New	IMO 15.
184.702	New	
184.704	New	
184.710	New	
184.720	New	NVIC 11-83.
185.100	185.01-5	
185.115	New	
185.202	New	4.05-1.
185.204	New	4.05-5.
185.206	New	4.05-10.
185.207	New	4.05-12.
185.208	New	NVIC 11-83; 78.33.
185.210	New	4.05-12.
185.220	New	4.05-15.
185.230	New	4.05-20.
185.240	New	4.05-25.
185.250	185.19-1, Revised.	46 U.S.C. 2303, 2304.
185.260	New	Subpart 4.04, 46 U.S.C. 2306.
185.280	New	NVIC 11-83; 46 U.S.C. 11301; Subpart 78.37.
185.282	New	NVIC 11-83; 78.37-3(c)
185.304	New	33 CFR 164.11.
185.306	New	78.10-1.
185.310	185.20-1	
185.320	185.20-10, Revised.	
185.330	185.20-15, Revised.	NVIC 11-83; 78.15.
185.340	185.20-20, Revised.	
185.350	185.20-25	
185.352	182.15-45(d), Revised.	
185.356	175.05-1(d)	
185.360	185.20-30, Revised.	
185.370	185.17-1	
185.402	185.10-1	
185.410	185.22-1, Revised.	46 U.S.C. 8102.
185.420	185.25-10, Revised.	IMO 17.2.
185.430	New	IMO 13.8.7.
185.432	New	IMO 4.4.2(c)
185.502	New	46 U.S.C. 3502.
185.504	New	46 U.S.C. 3502.
185.506	185.25-1(d), Revised.	
185.508	New	
185.510	185.25-1(a), (b), (c).	
185.512	185.25-5, Revised.	
185.514	New	NVIC 11-83; 78.13.
185.515	New	NVIC 11-83; 78.47-47.
185.516	New	NVIC 11-83; 78.47-47.
185.518	185.25.7, Revised.	160.051.
185.520	185.25-10	NVIC 11-83; 78.17-50.
185.524	185.25-10	NVIC 11-83; 78.17-50; IMO 17.5.3.
185.530	185.25-15	
185.602(a)	185.30-1	
185.602(b), (c), (d), (e).	New	NFPA 101.
185.604	185.30-5, 185.30-10, 185.30-30, 180.20-5, 180.25-15, 180.25-25, Revised.	
185.606	185.30-15	
185.608	185.30-20	
185.610	185.30-25	
185.612(a), (c).	181.20-15(d), Revised.	78.47-15.
185.612(b), (d)-(h).	New	NVIC 11-83; 78.47.
185.700	New	
185.702	New	
185.704	New	
185.720	New	
185.722(a)	New	
185.722(b)	185.25-20(a)	
185.724	New	
185.726	185.25-20(b), Revised.	
185.730	New	160.051-6; 160.076, 160.077.
185.740	New	160.062.
185.800	New	IMO 17.1.4, 17-3.
185.810	New	IMO 1.8.1.
185.812	New	IMO 1.8.2, 1.8.3, 17.1.4, 17.2.
185.900	185.05-1(a)	
185.910	185.05-1(b)	

Draft Evaluation

The Coast Guard has conducted a detailed evaluation of the costs and benefits of the proposed changes affecting small passenger vessel owners, the public, and the Coast Guard. The average annual cost to the small passenger vessel industry of the proposed changes is estimated to be $8.5 million per year in 1987 dollars. Included in the total average annual cost are increased costs from proposed requirements as well as monetary benefits primarily due to cost savings from:

1. Reduced fire damage due to increased fire protection equipment;
2. Extended drydocking intervals;
3. Reduced structural fire protection requirements;
4. Greater flexibility in the choice of structural fire protection materials and piping materials; and
5. Reduced insurance premiums from fixed total flooding fire extinguishing systems, fire detecting systems, and smoke detecting systems.

The proposed regulations would result in an overall increased cost, for the initial purchase and outfitting of a new, small passenger vessel, of approximately $1500 to $94,000 per vessel depending upon the vessel's operation and number of passengers permitted to be carried. The total net present value of the proposed changes is $85 million.

Time phasing and discounting were used to determine the Net Present Value (NPV) and Average Annual Cost (AAC). Discounting recognizes that future costs or benefits are not worth the same amount at the present time, and that the relationship between monetary values at different points in time is the interest rate or discount factor. The NPV is the total value of all future costs and

benefits from this proposal on the effective date of the regulations. To calculate the NPV the regulations were assumed to be effective for a planning period of 100 years. Each year's expected yearly cost was multiplied by a discount factor and summed over all years of the planning period. The AAC is the NPV discounted over all the years of the planning period, producing equal annual costs. For the evaluation the average life of a small passenger vessel was estimated to be twenty-five years.

More than 70 individual changes from the existing regulations were identified in this proposal as being monetary cost/benefit items. The most significant of these items were:

1. Liferafts and inflatable buoyant apparatus ($5.6 million AAC);

2. Passenger/crew lists ($1.04 million AAC);

3. Category 1 EPIRBs for vessels on oceans and coastwise routes ($0.4 million AAC); and

4. Fixed total flooding fire extinguishing systems in machinery spaces ($0.37 million AAC).

A discussion of the individual cost or monetary benefit of many proposed changes is included in the Discussion of Proposed Regulations. Tables listing the primary changes proposed in this notice, which would result in a cost or monetary benefit to a small passenger vessel owner, are also included below. For the convenience of the reader, a cost and monetary benefit table is provided for four sample small passenger vessels which vary by length, passenger capacity, route, and accommodation type. The estimated cost of the proposed changes, which are listed in the tables, are based on information from small passenger vessel owners, builders, equipment vendors, and marine equipment catalogs, and include estimated initial outfitting costs and the annual recurring costs. Outfitting costs include the initial purchase price and installation charge for new equipment. Recurring costs include annual maintenance and service cost, annual labor cost for making passenger and crew lists, and an annual pro rata replacement cost for the cited equipment based on a ten year life expectancy, minus any quantifiable monetary benefit from annual cost savings due to reduced insurance premiums, reduced material costs, reduced number of drydockings, etc. Estimated increased costs are listed without parentheses; cost savings are placed within parentheses. Comments are requested on the costs stated throughout this preamble.

TABLE OF COSTS AND MONETARY BENEFITS FOR A NEW VESSEL OF NOT MORE THAN 65 FEET IN LENGTH CARRYING 23 PASSENGERS WITHOUT OVERNIGHT ACCOMMODATIONS ON AN OCEANS ROUTE

Cite 46 CFR and Requirement	Outfitting Cost (Benefit)	Recurring Cost (Benefit)
176.600 Drydock		($60)
178.320 Simp. stab. test	$200	
180.64 Category 1 EPIRB	1,150	115
180.202 Liferaft	8,595	540
181.400 Fixed ext. in mach.	1,150	[1](309)
181.610 Fire buckets	30	3
182.430 Wet exhaust	(200)	(20)
182.440 Independ. tank baff.	(100)	(10)
182.455 Flexible hose	(30)	(3)
182.520 Submers. bilge pump	(150)	(15)
182.530 Bilge alarm	200	[1]0
184.506 Broadcast placard	10	1
184.610 PA system	100	10
184.710 First aid kit	65	7
185.502 Passenger/crew list		205
185.516 Lifejacket placard	10	1
185.604 Retroreflective tape	24	2
Totals	11,054	467

[1] Value includes estimated annual monetary benefit from insurance savings and a decrease in fire or flooding damage.

TABLE OF COSTS AND MONETARY BENEFITS FOR A NEW VESSEL OF MORE THAN 65 FEET IN LENGTH CARRYING 310 PASSENGERS WITHOUT OVERNIGHT ACCOMMODATIONS ON A LAKE, BAY, AND SOUND ROUTE

Cite 46 CFR and Requirement	Outfitting Cost (Benefit)	Recurring Cost (Benefit)
171.050 Rail crowd. criteria	$35	
171.080 Damage stab. survival	5,000	
176.600 Drydock		($100)
177.430 Fire boundaries, load	(11,132)	(1,113)
180.206 Inflat. buoyant app.	40,600	3,100
181.300 80 GPM fire pump	200	20
181.400 Fixed ext. in mach.	5,906	[1](608)
181.400 Galley grease extr.	4,000	400
181.400 Accom. smoke detect.	6,344	[1](491)
182.430 Wet exhaust	(200)	(20)
182.455 Flexible hose	(30)	(3)
182.500 Subch. F bilge req.	400	40
182.530 Bilge alarm	400	[1]20
182.610 Steering requirement	150	15
184.404 Radar	3,000	300
184.408 Fathometer	200	20

TABLE OF COSTS AND MONETARY BENEFITS FOR A NEW VESSEL OF MORE THAN 65 FEET IN LENGTH CARRYING 310 PASSENGERS WITHOUT OVERNIGHT ACCOMMODATIONS ON A LAKE, BAY, AND SOUND ROUTE—Continued

Cite 46 CFR and Requirement	Outfitting Cost (Benefit)	Recurring Cost (Benefit)
184.506 Broadcast placard	10	1
184.610 PA system	500	50
184.710 First aid kit	65	7
185.514 Station bill	20	2
185.516 Lifejacket placard	10	1
185.602 Markings	80	8
185.604 Retroreflective tape	24	2
Totals	55,582	1,651

[1] Value includes estimated annual monetary benefit from insurance savings and a decrease in fire or flooding damage.

TABLE OF COSTS AND MONETARY BENEFITS FOR A NEW VESSEL OF NOT MORE THAN 65 FEET IN LENGTH CARRYING 57 PASSENGERS WITHOUT OVERNIGHT ACCOMMODATIONS ON A RIVER ROUTE

Cite 46 CFR and Requirement	Outfitting Cost (Benefit)	Recurring Cost (Benefit)
176.600 Drydock		[1] $60
181.300 50 PSI fire pump	$200	20
181.400 Fixed ext. in mach.	1,150	[2] (159)
181.610 Fire buckets	30	3
182.430 Wet exhaust	(200)	(20)
182.440 Independ. tank baff.	(100)	(10)
182.455 Flexible hose	(30)	(3)
182.530 Bilge alarms	200	[2] 0
184.506 Broadcast placard	10	1
184.610 PA system	100	10
184.710 First aid kit	65	7
185.516 Lifejacket placard	10	1
185.604 Retroreflective tape	24	2
Totals	1,459	(88)

[1] Increased cost listed is for a wooden hull vessel due to the decrease in the drydock interval from 5 years to 2 years. Vessels with other hull types would not incur any cost or benefit since their required drydock interval for fresh water operations would remain 5 years.

[2] Value includes estimated monetary benefit from insurance savings and a decrease in fire or flooding damage.

TABLE OF COSTS AND MONETARY BENEFITS FOR A NEW VESSEL OF MORE THAN 65 FEET IN LENGTH CARRYING 102 PASSENGERS IN OVERNIGHT ACCOMMODATIONS ON A COASTWISE ROUTE

Cite 46 CFR and Requirement	Outfitting Cost (Benefit)	Recurring Cost (Benefit)
171.080 Damage stab. survival	$5,000	
176.600 Drydock		($170)
180.64 Category 1 EPIRB	1,450	145
180.110 Embarkation ladder	900	90
180.204 Inflat. buoyant app.	0	[1] 0
181.300 80 GPM fire pump	200	20
181.400 Fixed ext. in mach.	13,440	[2] (3,230)
181.400 Galley grease extr.	4,000	400
181.400 Int. fire detec/alrm	30,000	[2] (1,500)
182.200 Overspeed trip	1,000	100
182.430 Wet exhaust	(200)	(20)
182.455 Flexible hose	(30)	(3)
182.530 Bilge alarms	400	[2] 20
182.610 Steering requirement	150	15
184.404 Radar	0	[1] 0
184.408 Fathometer	0	[1] 0
184.506 Broadcast placard	10	1
184.610 PA system	500	50
184.710 First aid kit	65	7
185.502 Passenger/ crew list		908
185.514 Station bill	20	2
185.516 Lifejacket placard	10	1
185.602 Hull markings	80	8
185.604 Retroreflective tape	24	2
Totals	57,019	(3,155)

[1] No cost listed for item since it is presently installed on all applicable vessels or is required under existing § 175.05-15.
[2] Value includes estimated monetary benefit from insurance savings and a decrease in fire or flooding damage.

The small passenger vessel industry would incur a direct, average annual cost of $8.5 million as a result of this rulemaking. Although the direct cost may be considered large, the need for and benefits of the proposed regulations justify the cost.

The primary benefit of the proposed regulations is that they are expected to reduce the number of lives lost, and injuries and property damage sustained, as a result of casualties involving small passenger vessels. This primary benefit can not be readily calculated in monetary terms. Some of the requirements proposed by this rulemaking for which the full monetary benefit of the requirement can not be easily quantified include: liferafts and inflatable buoyant apparatus, EPIRBs, fixed total flooding fire extinguishing systems, fire detecting systems, and passenger and crew lists.

Based on available small passenger vessel casualty data from 1981 to 1986, the proposed requirements for inflatable liferafts and buoyant apparatus are expected to save two lives per year. The proposed requirement that passengers be required to wear lifejackets under certain conditions is also expected to save two lives per year. The valuation of human life is quite difficult and often undesirable. However, to compare the benefit of the proposed requirements for liferafts and inflatable buoyant apparatus, and the wearing of lifejackets under certain conditions, to the average annual cost of this rulemaking, the value of a human life must be estimated. Economists have estimated the value of a human life ranges from a minimum of $1 million to $11 million. If a human life is estimated to have a monetary value of at least $2.125 million, the benefit to cost ratio of the proposed requirements would be one. The average annual cost of this rulemaking would be reduced from $8.5 million to no cost due to the four lives expected to be saved per year from these lifesaving equipment requirements alone.

Fortunately, a United States small passenger vessel carrying a large number of passengers has not been involved to date in a major casualty resulting in a significant number of injuries or deaths. As available statistics indicate, the average size of small passenger vessels is increasing. As the average size increases, the risk of having a catastrophic casualty also increases.

The existing regulations do not adequately address the continual increase in the number of persons being carried on small passenger vessels today. This continual increase emphasizes the need for the proposed regulations. One casualty involving a small passenger vessel carrying a large number of passengers, which involves a large fire or results in passengers entering the water, would dramatically increase the number of lives saved by equipment and procedures required by the proposed regulations. The number of lives saved by the proposed regulations for survival craft and the donning of lifejackets alone would be much more than the estimated average, based on recent casualty data, of four lives per year.

The proposals for liferafts and inflatable buoyant apparatus are based on the recognition of the potential for a tragic accident involving a large number of passengers as well as the number of deaths which have occurred in the past. Because of the high cost of survival craft, alternatives to the proposed requirements were extensively considered. The proposed regulations for survival craft were determined to be the best balance of number of persons at risk, the threat due to hypothermia, and cost.

The proposal to require Category 1 EPIRBs on all small passenger vessels presently required to have EPIRBs, as well as on vessels on coastwise routes within 20 miles of a harbor of safe refuge, is based upon the improved signals that the new Category 1 EPIRBs transmit and recognition that many casualties occur close to shore without an adequate distress signal being transmitted. The proposed requirements for Category 1 EPIRBs would improve rescue response by reducing delays and increasing the accuracy of the signal location. The costs to search and rescue units would be decreased because such units would have to spend less time responding and also because of an expected reduction in the number of false alarms which must be tracked down. False alarms from Category 1 EPIRBs are less likely and easier to trace than from the presently required Class A EPIRBs. These benefits of the proposed requirement for Category 1 EPIRBs are difficult to quantify.

The proposal that fixed total flooding fire extinguishing systems be installed in enclosed machinery spaces on all vessels was based upon the large number of casualties involving machinery space fires and the relatively inexpensive cost of these systems for most small passenger vessels. The monetary benefit of such systems due to reduced fire damage and insurance premiums, which can be quantified, has been included in the average annual cost. Some insurance industry estimates indicate that fixed total flooding fire extinguishing systems actually "pay for themselves" in three to ten years due to reduced insurance premiums. Smoke detecting systems also result in reduced insurance premiums.

Smoke detecting systems are considered essential for ensuring early detection of a fire, which leads to more organized and effective firefighting and evacuation responses. Organized and effective responses are of particular concern for the vessels subject to the proposed requirement for smoke detecting systems, which includes vessels carrying more than 150 passengers, because of the large numbers of people at risk. The installation of these detecting systems is

also considered necessary in order to allow reduced structural fire protection. A monetary benefit from smoke detecting systems due to reduced fire damage can not be determined. However, a rapid response to one fire detected by smoke detecting systems aboard a small passenger vessel carrying more than 150 passengers would justify the expense of such systems.

The proposed regulations for passenger and crew lists stem from requirements in the law. The need for such lists is bolstered by recommendations from NTSB and Coast Guard casualty reports. The lists will provide search and rescue personnel with the number and identity of persons missing in the event of a casualty. Often in such situations these details are difficult to determine with any degree of certainty which makes it difficult to determine when to suspend a search. The monetary benefit of such lists is difficult to estimate but such lists would reduce the time it takes for search and rescue personnel to determine how many persons are missing and result in more efficient use of resources.

A draft evaluation has been prepared and placed in the rulemaking docket. The evaluation contains information on the methodology and data sources used in determining costs and benefits, details on the costs and benefits of each change, alternatives to proposed changes, costs for sample small passenger vessels, and a profile of the small passenger fleet and its casualty history. For information concerning inspecting and copying the draft evaluation, refer to **ADDRESSES** above. Copies may also be received by contacting the person listed under **FOR FURTHER INFORMATION CONTACT**.

Based on the draft evaluation, the proposed regulations are considered to be non-major under Executive Order 12291 and nonsignificant under the Department of Transportation regulatory polices and procedures (44 FR 11034, February 26, 1979).

Environmental Impact

This rulemaking has been thoroughly reviewed by the Coast Guard and it has been determined to be categorically excluded from further environmental documentation in accordance with section 2.B.2.c and 2.B.2.1 of Commandant Instruction (COMDTINST) M16475.1B. A categorical Exclusion Determination statement has been prepared and has been placed in the rulemaking docket.

Regulatory Flexibility Act

Under the Regulatory Flexibility Act (5 U.S.C. 601 through 612), the Coast Guard must consider whether this rule is likely to have a significant economic impact on a substantial number of small entities. "Small entities" include independently owned and operated small businesses which are not dominant in their field and which would otherwise qualify as "small business concerns" under section 3 of the Small Business Act (15 U.S.C. 632).

A large percentage of small passenger vessels are owned or managed by small entities. The annual costs per passenger capacity (using the maximum number of passengers permitted to be carried as indicated on a vessel's Certificate of Inspection) ranges from $5 for a vessel of not more than 65 feet in length carrying more than 49 passengers on a river route to $70 for a vessel of more than 65 feet in length, which has overnight accommodations for more than 49 passengers, on a coastwise route. As the passenger capacity increases on each type of vessel, the cost per passenger decreases. Existing vessels have lower costs since they need not comply with some proposed regulations and are allowed delayed retrofitting of equipment required by other proposed regulations.

To evaluate the impact the proposed regulations would have on an owner of a small passenger vessel, the increase in ticket prices that an owner would have to charge for trips on four sample vessels, which are most representative of the small passenger fleet, was determined. An owner of the following sample vessels could recover the cost of the proposed regulations by increasing the passenger ticket price by the indicated amount if the vessel made 100 trips per year at 50% capacity:

Vessel	Price Increase
1. Not more than 65 feet in length, carrying 57 passengers, on a river route	$0.03
2. More than 65 feet, carrying 310 passengers, on a lakes, bays and sounds, route	0.65
3. Not more than 65 feet in length carrying 23 passengers, on an oceans route	1.90

The owner of an average "very large" small passenger vessel of more than 65 feet in length having overnight accommodations for 102 passengers, on a coastwise route, could recover the costs of the proposed regulations by increasing the charge to a passenger by $1.93 if the vessel made 32 trips per year at 50% capacity. The estimated cost of a ticket for a 1 week trip on such vessels is more than $700 per week.

Small passenger vessel owners would need to increase the charge to each passenger carried on a voyage a minimal amount to recover the costs of these proposed regulations. The three cents ticket price increase for the vessel on a rivers route is considered to be insignificant. The ticket price increase of a $1.90 for the vessel on an oceans route and of $0.65 for the vessel on a lakes, bays, and sounds route is also considered to be insignificant since the existing ticket price for a trip on such a vessel may be as much as $25 for a day trip. The estimated per ticket price increases for the average vessel on an oceans route is expected to be less than 8% of the present ticket price. Ninety percent ($1.72) of the cost increase for a vessel on an oceans route is due to the proposed requirement for liferafts alone. The estimated per ticket price increase for the average vessel on a lakes, bays, and sounds route is expected to be less than 5% of the present ticket price. The average vessel on an oceans route or a lakes, bays, and sounds route usually operates at a higher usage level than the 100 trips per year at 50% capacity, which was assumed for the price increase calculations. The increase in ticket price for the average vessel on a coastwise route, which does not carry more than 49 passengers in overnight accommodations, will be less than the price increase for a similar vessel on an ocean route. The $1.93 ticket price increase for the vessel carrying 102 passengers in overnight accommodations is also considered insignificant since the price increase is estimated to be less than 1% of the average ticket price for a trip on such a vessel.

In addition to the four sample vessels, the effect of the proposed regulations on other vessel categories was also considered to determine which type of small passenger vessel the regulations would have the greatest impact on. The type of vessel for which the regulations would have the greatest cost impact are vessels on oceans or coastwise routes which are permitted to carry only a few more passengers than the maximum of six which may be carried on uninspected vessels. This group of vessels is primarily composed of sport fishing vessels, which carry passengers on chartered trips. Some of these are only operated on a part time basis. The owners of vessels operated part time would be impacted the most since such vessels make only a limited number of trips from which they can recover the

cost of the proposed regulations. The exact number of sport fishing vessels operated on a part time basis is unknown but estimated to be small.

The reason that the sport fishing vessels are impacted the most by the regulations is because approximately 80 percent of the cost increase for a vessel operating on an oceans, coastwise, or Great Lakes route is due to the proposed requirement for liferafts and inflatable buoyant apparatus. The per passenger impact of the requirement for inflatable survival craft increases as the passenger capacity of a vessel decreases.

Smaller capacity survival craft, which would be installed on a sport fishing vessel, cost more on a per person basis than large capacity survival craft. To estimate the cost impact of the proposed regulations on a sport fishing vessel, which is operated only part time, a vessel was assumed to make only 40 trips per year with an average of 8 passengers per trip. Based on these assumptions, the owner of a sport fishing vessel operated on a part time basis, could recover the cost of the proposed regulations by increasing the individual passenger ticket price by $3.50 or the vessel charter price by $28 per trip. Sport fishing vessels commonly charge $350 to $400 for each trip chartered. An increase of $28 would be a 7% increase; an amount which should not have a significant impact on the owners of sport fishing vessels.

Based on the minimal amount an owner of a small passenger vessel would have to increase a passenger ticket price to recover the cost of the proposed regulations, as discussed above, the Coast Guard has determined that this proposed rulemaking will not have a significant economic impact on a substantial number of small entities.

Federalism

This proposed rulemaking has been analyzed in accordance with the principles and criteria contained in Executive Order 12612, and it has been determined that this proposed rulemaking does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

Paperwork Reduction Act

This rulemaking contains information collection requirements in the following sections of 46 CFR: 176.105(a), 176.202, 176.204, 176.302, 176.306, 176.310, 176.500(a), 176.612, 176.700, 176.704, 176.710, 176.810(b), 176.920(c), 176.930, 176.932(b), 177.202, 177.330(b), 177.340, 177.610(e), 178.210, 178.220, 178.230, 181.610, 182.460(e), 182.610, 183.320, 184.420, 184.506, 185.202, 185.206, 185.208, 185.220, 185.230, 185.260, 185.280, 185.282, 185.304(c), 185.402, 185.502, 185.504, 185.506 185.510, 185.514, 185.515, 185.516, 185.518, 185.602, 185.604, 185.606, 185.608, 185.610, 185.612, 185.702, 185.704(c), 185.810.

The information collection requirements have been submitted to the Office of Management and Budget (OMB) for review under the provisions of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 *et seq.*) Persons desiring to comment on these regulations should submit their comments to: Office of Regulatory Policy, Office of Management and Budget, 726 Jackson Place, NW., Washington, DC 20503, ATTN: Desk Officer, Coast Guard. Persons submitting comments to OMB are also requested to submit a copy of their comments to the Coast Guard as indicated under ADDRESSES.

List of Subjects

46 CFR Part 170

Marine safety, Reporting and recordkeeping requirements, Vessels.

46 CFR Part 173

Marine safety, Vessels.

46 CFR Part 175

Marine safety, Passenger vessels, Reporting and recordkeeping requirements.

46 CFR Part 176

Fire prevention, Marine safety, Passenger vessels, Reporting and recordkeeping requirements.

46 CFR Parts 177, 177, 178, 179, 180, 182

Marine safety, Passenger vessels.

46 CFR Part 181

Fire prevention, Marine safety, Passenger vessels.

46 CFR Part 183

Electric power, Marine safety, Passenger vessels.

46 CFR Part 184

Communications equipment, Marine safety, Navigation (water), Passenger vessels.

46 CFR Part 185

Alcohol and alcoholic beverages, Drugs, Hazardous materials, Marine safety, Navigation (water), Passenger vessels, Reporting and recordkeeping requirements.

Proposed Rules

In consideration of the foregoing, the Coast Guard proposes to amend Parts 170, 171, and 173 of Title 46, Code of Federal Regulations, Subchapter S to read as follows:

SUBCHAPTER S—SUBDIVISION AND STABILITY

PART 170—STABILITY REQUIREMENTS FOR ALL INSPECTED VESSELS

1. The authority citation for Part 170 is revised to read as follows:

Authority: 46 U.S.C. 2104, 3306, and 3703; 49 CFR 1.46.

§ 170.001 [Amended]

2. Section 170.001 is amended by removing the date of January 3, 1984 in paragraphs (a) and (b) and inserting in its place the date of [insert effective date of regulations].

3. Section 170.055 is amended by adding a sentence to paragraph (h)(1) and adding paragraph (v) to read as follows:

§ 170.055 Definitions concerning a vessel.

* * * * *

(h) * * *

(1) * * * The commanding Officer, U.S. Coast Guard Marine Safety Center, may include the length or a portion of the length of the underwater projections in the value used for the LBP for the purposes of this subchapter for a small passenger vessel which has underwater projections extending forward of the forwardmost point or aft of the aftermost point on the deepest waterline of the vessel. The length or a portion of the length of projections which contribute more than 2 percent of the underwater volume of the vessel is normally added to the actual LBP.

* * * * *

(v) "Small passenger vessel" means a vessel of less than 100 gross tons carrying more than six passengers, as defined in § 175.400 of this chapter.

§ 170.075 [Amended]

4. Section 170.075 is amended in paragraph (b), by removing the citation "§ 171.030(b)(2)" and adding, in its place, "§ 178.320" and by removing the citation "§ 171.043" and adding, in its place, "with § 179.220."

5. Section 170.090 is amended by adding paragraphs (c) and (d) to read as follows:

§ 170.090 Calculations.

* * * * *

(c) For calculations required by this subchapter for a small passenger vessel, the assumed average weight of each person included in the loading conditions must be at least 160 pounds (72.5 kilograms), located with a vertical

center of gravity of 3 feet (0.9 meter) above the deck.

(d) Unless otherwise indicated in the vessel's stability booklet, stability letter, or stability details on its Certificate of Inspection, for calculations required by this subchapter for a small passenger vessel, passengers must be assumed to crowd all decks above the main deck to a density of 3 square feet per person.

§ 170.105 [Amended]

6. Section 170.105 is amended by removing paragraph (b)(1) and by redesignating paragraphs (b)(2) through (b)(5) as paragraphs (b)(1) through (b)(4), respectively.

§ 170.160 [Amended]

7. Section 170.160 is amended by removing paragraph (b)(1) and by redesignating paragraphs (b)(2) through (b)(4) as paragraphs (b)(1) through (b)(3), respectively.

8. Section 170.170 is amended by revising the definition of certain functions in the GM equation in paragraph (a) to read as follows:

§ 170.170 Calculations required.

(a) * * *

$P = .005 + (L/14{,}200)^2$ tons/ft^2 . . . for ocean service, Great Lakes winter service except for a small passenger vessel operating within 20 miles of a harbor of safe refuge on a route the OCMI determines is partially protected, or service on exposed waters.

$P = .055 + (L/1309)^2$ metric tons/ft^2 . . . for ocean service, Great Lakes winter service except for a small passenger vessel operating within 20 miles of a harbor of safe refuge on a route the OCMI determines is partially protected, or service on exposed waters.

* * * * *

A = projected lateral area in square feet (square meters) of the portion of the vessel and deck cargo above the waterline. For a small passenger vessel the area includes lateral areas which may be enclosed by items such as canvas or glass.

* * * * *

T = the lesser of either 14 degrees heel or, the angle of heel in degrees at which one-half the freeboard to the freeboard deck is immersed. For a sailing vessel that is a small passenger vessel, T = the lesser of either 14 degrees or the angle of heel in degrees to the deck edge.

* * * * *

9. Section 170.173 is amended by revising paragraphs (a)(1) and (a)(2), adding paragraphs (a)(3) and (a)(4), redesignating paragraph (d) as paragraph (f), and adding new paragraphs (d) and (e) to read as follows:

§ 170.173 Criterion for vessels of unusual proportion and form.

(a) * * *

(1) Paragraph (b) or (c) of this section if the maximum righting arm occurs at an angle of heel less than or equal to 30 degrees;

(2) Paragraph (b) of this section if the maximum righting arm occurs at an angle of heel greater than 30 degrees;

(3) Paragraph (b), (c), or (d) of this section, if it is a small passenger vessel operating on exposed or partially protected waters; or

(4) Paragraph (b), (c), (d) or (e) of this section, if it is a small passenger vessel operating on protected waters.

* * * * *

(d) each vessel must have—

(1) An area under each righting arm curve of at least 15 foot-degrees up to the lesser of the following angles:

(i) The angle of maximum righting arm;

(ii) The angle of downflooding; or

(iii) 40 degrees;

(2) An angle of downflooding of at least 25 degrees.

(3) An angle of vanishing stability of at least 40 degrees.

(e) Each vessel must have—

(1) An area under each righting arm curve of at least 10 foot-degrees up to the least of the following angles:

(i) The angle of maximum righting arm;

(ii) The angle of downflooding; or

(iii) 40 degrees.

(2) An angle of downflooding of at least 20 degrees.

(3) An angle of vanishing stability of at least 30 degrees.

* * * * *

PART 171—SPECIAL RULES PERTAINING TO VESSELS CARRYING PASSENGERS

1. The authority citation for Part 171 is revised to read as follows:

Authority: 46 U.S.C. 2104, 3306, and 3703, 49 CFR 1.46.

2. The table of contents for Part 171 is amended by:

a. Removing §§ 171.02, 171,030, 171.035, 171.040, and 171.043 under Subpart B;

b. Removing § 171.114 under Subpart E;

c. Removing § 171.119 under Subpart F;

d. Removing § 171.124 under Subpart G;

e. Removing §§ 171.140, 171.145, 171.150, and 171.155 under Subpart H; and

f. Revising the heading for Subpart B and adding two new sections to Subpart C to read as follows:

* * * * *

Subpart B—Reserved

Subpart C—Large Vessels

Sec.

* * * * *

171.076 Bottom damage requirements in lieu of Type II subdivision.

171.077 Subdivision requirements of multihull small passenger vessels.

* * * * *

3. Section 171.010 is amended by redesignating paragraphs (m) and (n) as paragraphs (n) and (o), respectively, and by adding paragraph (m) to read as follows:

§ 171.010 Definitions.

* * * * *

(m) "Small passenger vessel" means a vessel of less than 100 gross tons carrying more than six passengers, as defined in § 175.400 of this chapter.

* * * * *

Subpart B—[Reserved]

4. Subpart B consisting of §§ 171.020 through 171.043, is removed and reserved.

5. Section 171.045 is amended by adding paragraph (f), to read as follows:

§ 171.045 Specific applicability.

* * * * *

(f) A small passenger vessel which is a sailing or an auxiliary sailing vessel.

6. Section 171.050 is amended by designating the existing text as paragraph (a) and adding paragraphs (b) and (c) to read as follows:

§ 171.050 Intact stability requirements for a mechanically propelled or nonself-propelled vessel.

* * * * *

(b) A small passenger vessel, on which passengers are not prevented from crowding to the outboard rails by the arrangement of the vessel, must be shown by design calculations to have a metacentric height (GM) in each condition of loading and operation that is not less than the value given by the following equation, using the distribution of passengers determined by the equations in paragraph (c) of this section:

$GM = ((R)(N)) / ((K)(W)(\tan \text{ of } T))$

Where—

N = total number of passengers;

W = displacement of vessel in long tons;

T = 14 degrees or the angle of heel at which the deck edge is first submerged, whichever is least;

R = distance in feet from the centerline of the vessel to the outboard rail minus 3.28 feet (1 meter); and

K = 14 passengers/long ton (13.8 passengers/metric ton), based on 160 pounds/person.

(c) In determining the GM of a small passenger vessel, to which paragraph (b) of this section applies, the distribution of passengers used in the loading condition on each deck of the vessel must be determined by the following equations:

$N_1 = A_1/D$
$N_2 = (2)A_2/D$
$N_3 = (3)A_3/D$
•
•
•
$N_i = (i)A_i/D$

Where—
i = the number of decks on the vessel to which passengers have access;
$A_1, A_2, A_3, \ldots, A_i$ = Area of lowest, 2nd, 3rd, . . ., ith deck; $N_1, N_2, N_3, \ldots, N_i$ = No. of passengers on lowest, 2nd, 3rd, . . ., ith deck; and
$D = (A_1 + (2)A_2 + (3)A_3 + \ldots + (i)A_i)/N$.

7. Section 171.055 is amended by:

a. Adding graphs 171.055(f), 171.055(g), 171.055(h), 171.055(i), and 171.055(j); and

b. Revising the coefficients in paragraphs (d)(1), (d)(2), and (g)(1) and by revising paragraph (e)(4)(ii) to read as follows:

§ 171.055 Intact stability requirements for a monohull sailing vessel or a monohull auxiliary sailing vessel.

* * * * *

(d) * * *

(1) * * *

Where—
X = 1.0 long tons/sq.ft. (10.9 metric tons/sq. meter);
Y = 1.1 long tons/sq.ft. (12.0 metric tons/sq. meter) except, for a small passenger vessel, Y = Y value determined from graph 171.055(f) multiplied by the multiplier determined from graph 171.055(j); and Z = 1.25 long tons/sq.ft. (13.7 metric tons/sq. meter) except, for a small passenger vessel, Z = Z value determined from graph 171.055(g) multiplied by the multiplier determined from graph 171.055(j).

(2) * * *

Where—
X = 1.5 long tons/sq.ft. (16.4 metric tons/sq. meter);
Y = 1.7 long tons/sq.ft. (18.6 metric tons/sq. meter) except, for a small passenger vessel, Y = Y value determined from graph 171.055(h) multiplied by the multiplier determined from graph 171.055(j); and Z = 1.9 long tons/sq.ft. (20.8 metric tons/sq. meter) except, for a small passenger vessel, Z = Z value determined from graph 171.055(i) multiplied by the multiplier determined from graph 171.055(j).

(e) * * *

(4) * * *

(ii) On a small passenger vessel, the area under the assumed heeling arm curve between 0 degrees and the angle of downflooding must be equal to the area under the righting arm curve between the same limits.

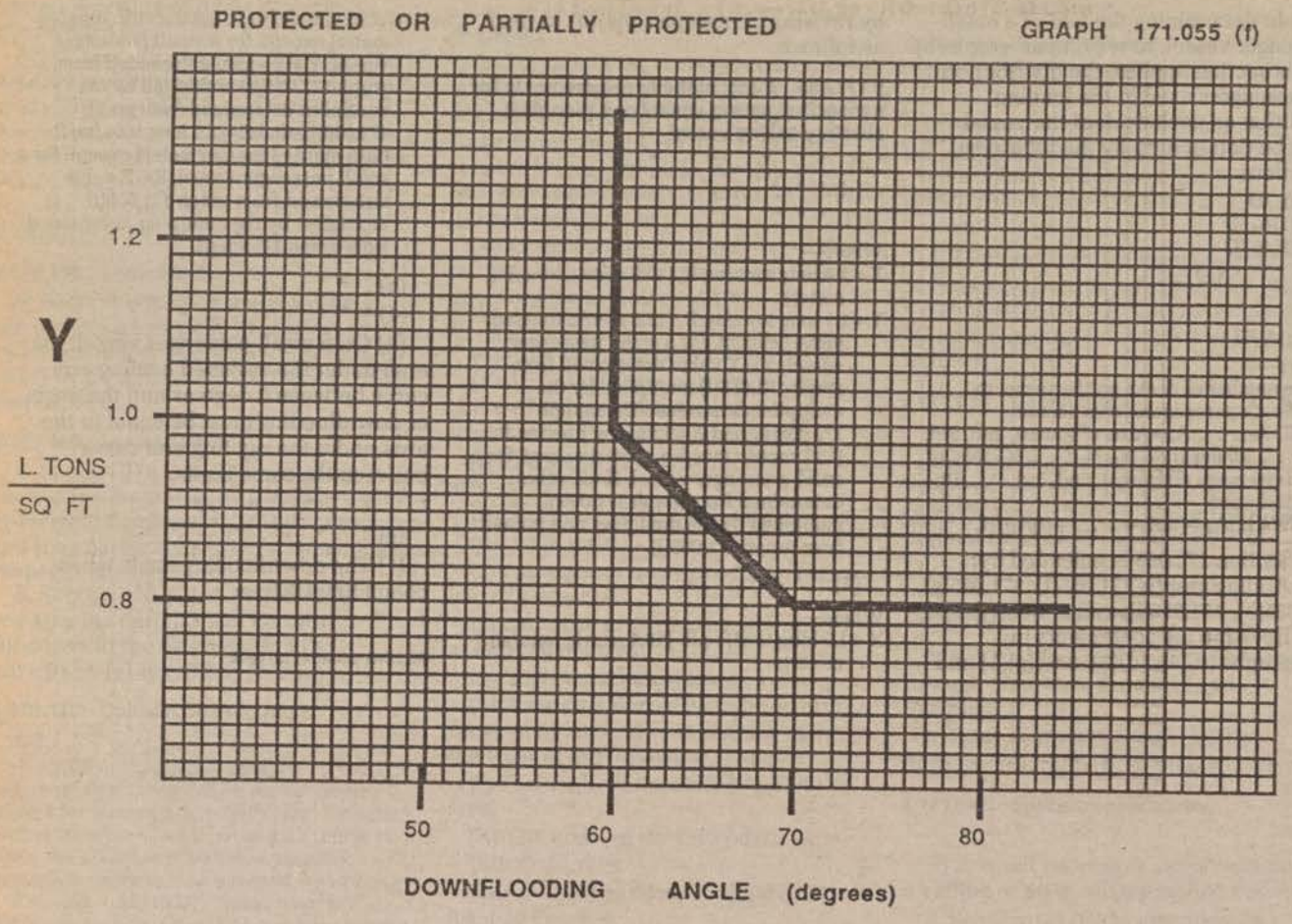
* * * * *

(g) * * *

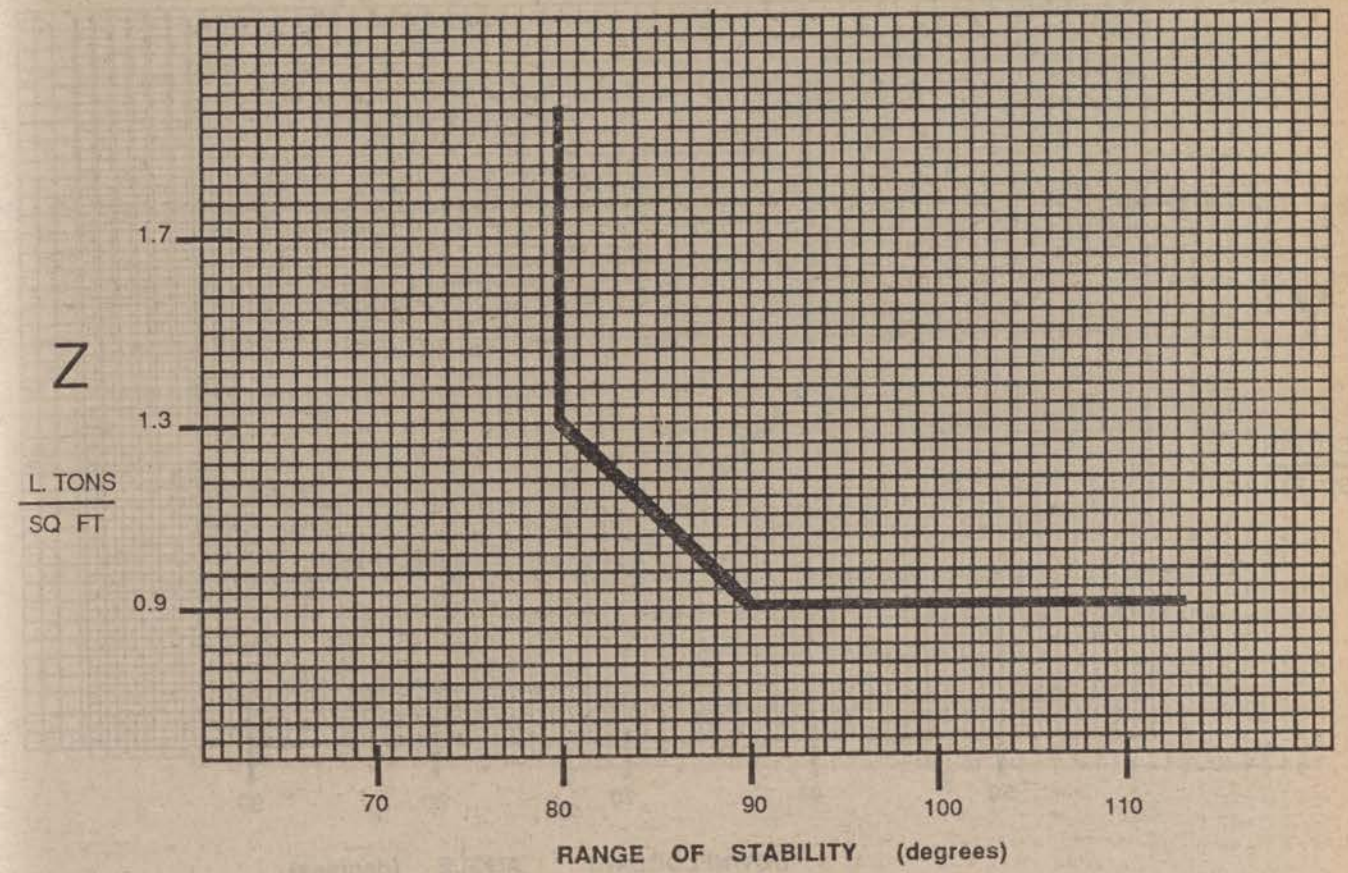
(1) The downflooding angle when computing HZB; or

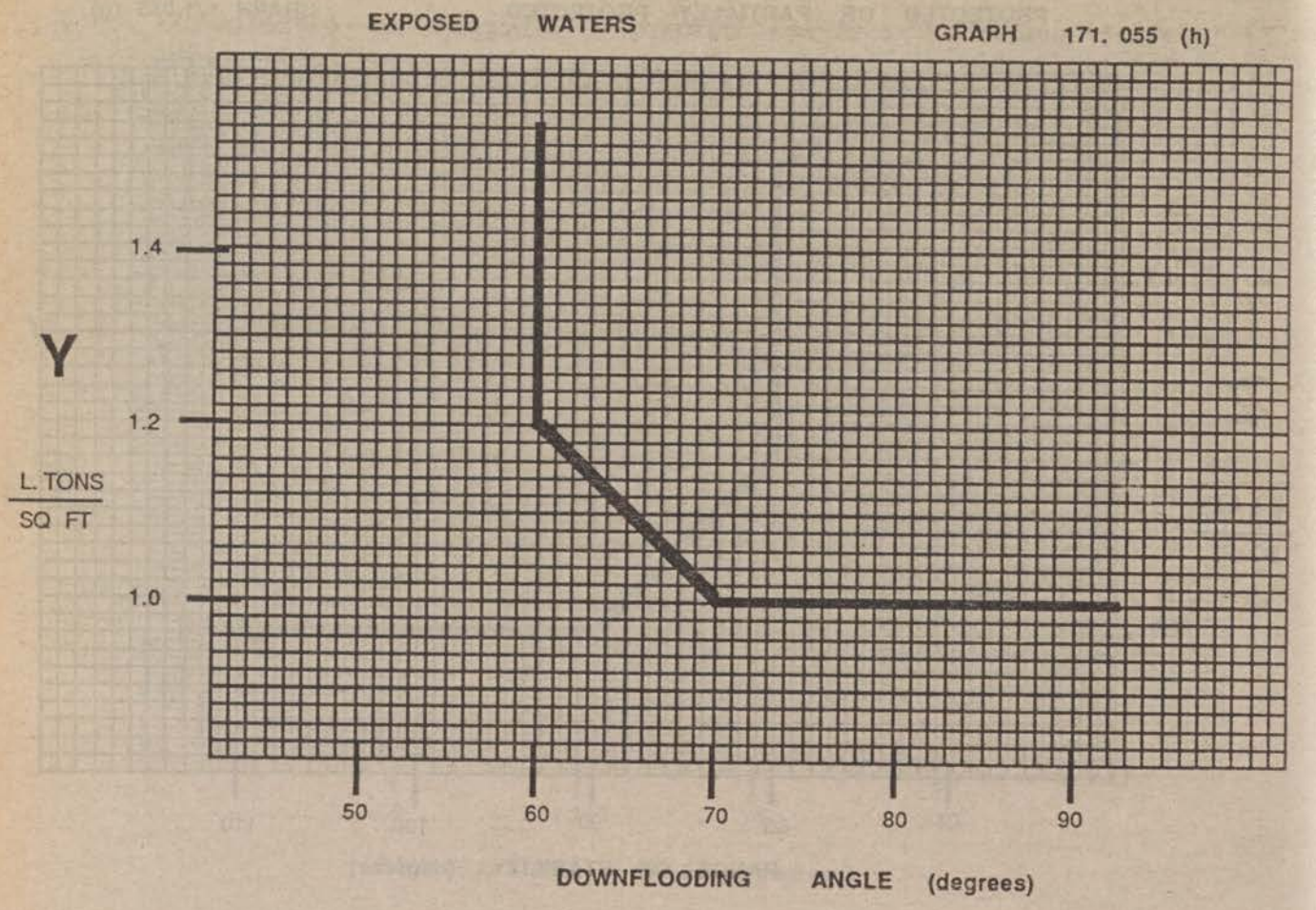
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PROTECTED OR PARTIALLY PROTECTED
GRAPH 171.055 (f)
Y
L. TONS
SQ FT
1.2
1.0
0.8
50
60
70
80
DOWNFLOODING ANGLE (degrees)

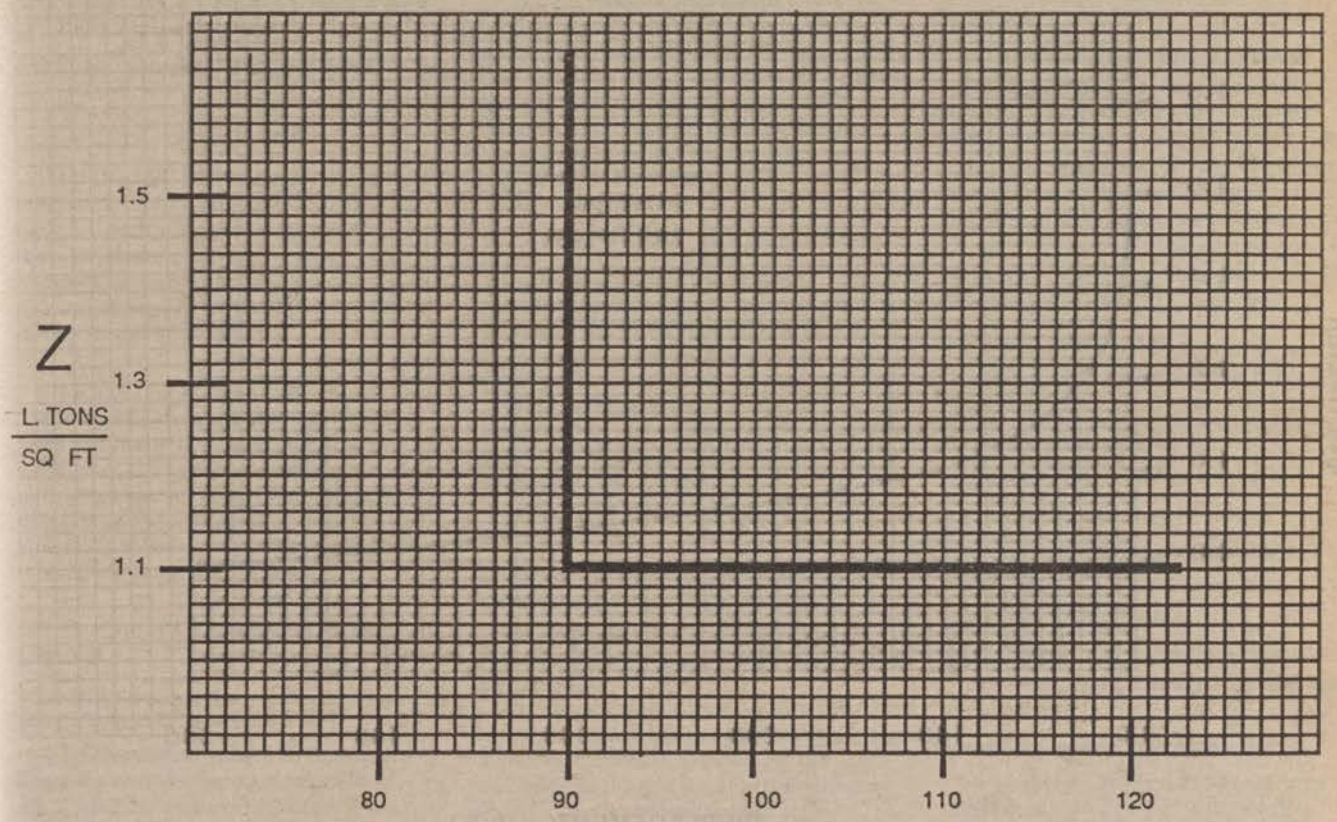
PROTECTED OR PARTIALLY PROTECTED GRAPH 171.055 (g)



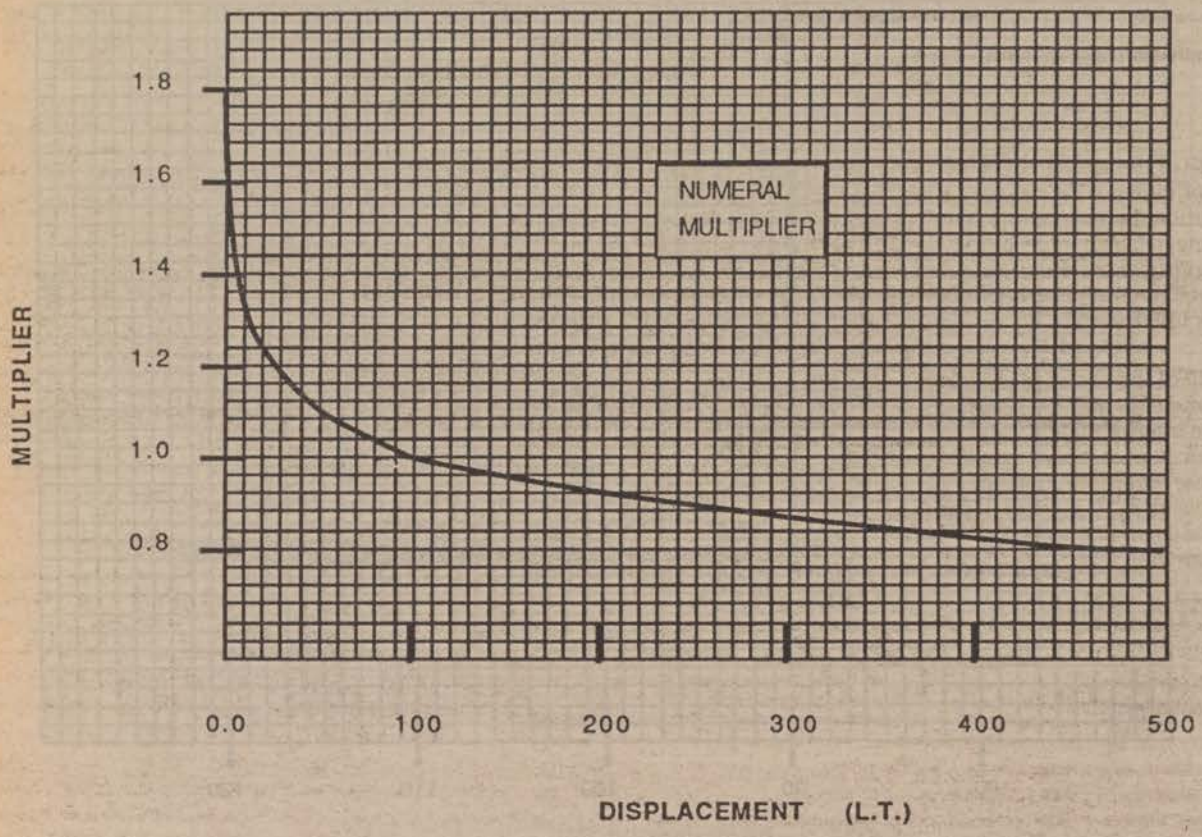

EXPOSED WATERS
GRAPH 171. 055 (h)
Y
L. TONS
SQ FT
1.4
1.2
1.0
50
60
70
80
90
DOWNFLOODING ANGLE (degrees)

EXPOSED WATERS

GRAPH 171.055 (I)



GRAPH 171.055 (j)



BILLING CODE 4910-14-C

8. Section 171.070 is amended by revising paragraphs (e)(1) introductory text and (e)(2) introductory text to read as follows:

§ 171.070 Subdivision requirements—Type II.

* * * * *

(e) * * *

(1) If the LBP of the vessel is 143 feet (43.5 meters) or more, or the vessel makes international voyages with more than 12 passengers, each main transverse watertight bulkhead must be at least 10 feet (3 meters) plus 3 percent of the vessel's LBP from—

* * * * *

(2) If the LBP of the vessel is less than 143 feet (43.5 meters), and the vessel does not make international voyages with more than 12 passengers, each main transverse watertight bulkhead must be not less than 10 percent of the vessel's LBP or 6 feet (1.8 meters), whichever is greater, from—

* * * * *

9. Section 171.076 is added to read as follows:

§ 171.076 Bottom damage requirements in lieu of Type II subdivision.

(a) *Alternative.* In lieu of meeting the Type II subdivision requirements of §§ 171.070 through 171.073 of this part, a small passenger vessel fitted with longitudinal bulkheads, or a double bottom which is at least 30 inches (76.2 cm) above the bottom plate, may meet the standard of flooding specified in Table 171.070(a). Only those spaces subject to bottom damage need be considered subject to flooding.

(b) *Character of damage.* To meet the one compartment standard in Table 171.070(a), design calculations must show that the vessel can survive damage at any location between main transverse bulkheads, including damage to a longitudinal bulkhead. To meet the two compartment standard in Table 171.070(a), design calculations must show that a vessel can survive bottom damage at any location between alternate main transverse watertight bulkheads, including the intersection of a main transverse bulkhead and a longitudinal bulkhead.

(c) *Extent of damage.* The extent of damage which a vessel must be able to survive, as required by paragraph (b) of this section, must include the most disabling penetration up to and including a penetration having the following dimensions:

(1) Longitudinal extent: 0.1 LBP but not less than 6 feet (1.8 meters) for a vessel less than 143 feet (43.5 meters); 10 feet (3.05 meters) + 0.03 LBP for a vessel greater than or equal to 143 feet (43.5 meters) or on an international voyage carrying more than 12 passengers.

(2) Transverse extent: B/3.

(3) Vertical extent: 30 inches (76.2 cm) or B/15, whichever is greater, measured from the bottom shell plate.

(d) *Permeability.* When doing calculations required by paragraph (b) of this section, the permeability of each space must be taken from Table 171.080(c).

(e) *Survival criteria.* A vessel is presumed to survive bottom damage if it meets the survival criteria in § 171.080(d) of this part.

10. Section 171.077 is added to read as follows:

§ 171.077 Subdivision requirements for multihull small passenger vessels.

(a) A multihull small passenger vessel must comply with the requirements of this section.

(b) For a vessel required to meet a one compartment standard of subdivision, the compartments forward of the collision bulkhead must be considered flooded both symmetrically and asymmetrically. Aft of the collision bulkhead, the transverse extent of side damage must be 20% of the total buoyant beam at or below the deepest waterline, including any buoyant cross structure.

(c) For a vessel required to meet a two compartment standard of subdivision at the bow, the two forward compartments in both hulls must be considered flooded both symmetrically and asymmetrically. Aft of that, the transverse extent of side damage must be 20% of the total buoyant beam at or below the deepest waterline, including any buoyant cross structure, and the longitudinal extent of side damage must be in accordance with the Standard of Flooding in Table 171.070(a).

(d) The bottom damage standard of § 171.076 is applicable to a multihull small passenger vessel except that, for the purposes of this section, B is the total buoyant beam at or below the deepest waterline.

11. Section 171.080 is amended by adding a new paragraph (d)(5) to read as follows:

§ 171.080 Damage stability standards for vessels with Type I or Type II subdivision.

* * * * *

(d) * * *

(5) For a small passenger vessel:

(i) The range of positive stability beyond equilibrium in the damaged condition must be at least 15 degrees;

(ii) The maximum positive righting arm within 15 degrees of equilibrium must be at least 4 inches (0.1 meter); and

(iii) The positive righting energy within 15 degrees of equilibrium must be at least 2.82 ft-deg (0.015 m-rad).

§ 171.110 [Amended]

12. In § 171.110, paragraph (b) is removed.

§ 171.114 [Removed]

13. Section 171.114 is removed.

§ 171.115 [Amended]

14. In § 171.115, paragraph (b) is removed.

§ 171.119 [Removed]

15. Section 171.119 is removed.

16. Section 171.120 is revised to read as follows:

§ 171.120 Specific applicability.

A vessel of at least 100 gross tons must comply with § 171.122 of this subpart.

§ 171.124 [Removed]

17. Section 171.124 is removed.

§ 171.130 [Amended]

18. In § 171.130, paragraph (b) is removed.

§§ 171.140, 171.145, 171.150, and 171.155 [Removed]

19. Sections 171.140, 171.145, 171.150, and 171.155 are removed.

PART 173—SPECIAL RULES PERTAINING TO VESSEL USE

1. The authority citation for Part 173 is revised to read as follows:

Authority: 46 U.S.C. 2104, 3306, and 3703; 49 CFR 1.46.

2. The cited sections or paragraphs of Part 173, listed in Column 1 of this paragraph, are amended by removing the existing reference, listed in Column 2, in the cited section or paragraph and adding in its place the new reference listed in Column 3.

Column 1 Cite	Column 2 Existing Reference	Column 3 New Reference
173.054(a)(1)	171.040(a)(1)	179.210(a) of this chapter.
173.054(b)(1)	171.040(a)(1)	179.210(a) of this chapter.

Column 1 Cite	Column 2 Existing Reference	Column 3 New Reference
173.054(b)(2)	171.043	179.220 of this chapter.
173.063(a)	171.035	170.170, 171.050, and 171.055.
173.063(d)	171.035 (d) through (h)	178.300 and 178.310 of this chapter.

15. The cited sections or paragraphs of Part 173, listed in Column 1 of this paragraph, are amended by adding the corresponding phrase, listed in Column 2, to the end of the cited section or paragraph.

Column 1 Cite	Column 2 New Phrase
173.059	"or §§ 179.320, 179.330, and 179.340 of this chapter."
173.060(a)	"or § 179.350 of this chapter."
173.061	"or § 179.360 of this chapter."
173.062	"or Subpart D of Part 178 of this chapter."

The Coast Guard also proposes to revise Title 46, Code of Federal Regulations, Subchapter T, consisting of Parts 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, and 185 to read as follows:

SUBCHAPTER T—SMALL PASSENGER VESSELS (UNDER 100 GROSS TONS)

PART 175—GENERAL PROVISIONS

Sec.

175.100 Purpose.
175.110 General applicability.
175.112 Specific applicability for individual parts.
175.120 Vessels on an international voyage.
175.122 Load lines.
175.200 Gross tonnage as a criterion for requirements.
175.400 Definitions of terms used in this subchapter.
175.500 Conduct of an inspection for certification.
175.510 Notice of deficiencies and requirements.
175.530 Alternative standards.
175.540 Equivalents.
175.550 Special consideration.
175.560 Appeals.
175.600 Incorporation by reference.
175.800 Approved equipment and material.
175.900 OMB control numbers.

Authority: 46 U.S.C. 2104, 3306, 5115, 8101; 49 CFR 1.46.

§ 175.100 Purpose.

The purpose of this subchapter is to implement applicable sections of Subtitle II of Title 46, United States Code, which require the inspection and certification of small passenger vessels.

§ 175.110 General applicability.

(a) Except as provided in paragraph (b) of this section, this subchapter applies to each vessel of less than 100 gross tons carrying more than six passengers.

(b) This subchapter does not apply to:

(1) A vessel operating exclusively on inland waters which are not navigable waters of the United States;

(2) A vessel which is laid up, dismantled, or out of commission;

(3) An oceanographic research vessel;

(4) A boat forming part of a vessel's lifesaving equipment and which is not used for carrying passengers except in emergencies or during emergency drills;

(5) A vessel of a foreign country which is a party to the "International Convention for the Safety of Life at Sea" to which the United States Government is currently a party and which has on board a current valid Passenger Ship Safety Certificate; or

(6) A vessel of a foreign country, whose government has inspection laws approximating those of the United States and which by its laws accords similar privileges to vessels of the United States, which has on board a current valid certificate of inspection, permitting the carrying of passengers, issued by its government.

§ 175.112 Specific applicability for individual parts.

At the beginning of certain parts of this subchapter, a more specific application is given for all or particular portions of the part. This application sets forth the type, size, service, or age of a vessel to which certain portions of the part apply or particular dates by which an existing vessel must comply with certain portions of the part.

§ 175.120 Vessels on an international voyage.

A mechanically propelled vessel, except a dynamically supported craft, which carries more than 12 passengers on an international voyage must comply with the applicable requirements of the current "International Convention for Safety of Life at Sea," to which the United States is party, as well as this subchapter.

§ 175.122 Load lines.

A vessel of 79 feet in length or over, the keel of which was laid or which was at a similar stage of construction on or after July 21, 1968, and which is on a foreign voyage, is subject to load line assignment, certification, and marking under Subchapter E (Load Lines) of this chapter.

§ 175.200 Gross tonnage as criterion for requirements.

(a) The regulations in this subchapter take into account the vessel's length, passenger capacity, construction, equipment, intended service, and operating area. The criterion for application of this subchapter is the gross tonnage of the vessel. When the Commandant determines that the gross tonnage of a particular vessel, which is attained by exemptions, reductions, or other devices in the basic gross tonnage formulation, will circumvent or be incompatible with the application of specific regulations for a vessel of such physical size, the Commandant shall prescribe the regulations to be made applicable to the vessel.

(b) When the Commandant determines that the gross tonnage is not a valid criterion for the use of certain regulations based on the relative size of the vessel, the owner will be informed of the determination and of the regulations applicable to the vessel. The vessel must be brought into compliance with all additional requirements before a Certificate of Inspection is issued.

§ 175.400 Definitions of terms used in this subchapter.

(a) Terms used in this subchapter are defined in paragraph (b) of this section except that terms relating to dynamically supported craft are defined in paragraph (c) of this section. The number in brackets after certain terms describing areas on a vessel refers to the applicable column and row number where that area is listed in Tables 177.430(c) and (d) of Part 177 of this subchapter.

(b) General terms.

"Accommodation space" means a space used as a:

(1) Public space;

(2) Hall;

(3) Dining room and messroom;

(4) Lounge or cafe;

(5) Public sales room;

(6) Overnight accommodation space;

(7) Barber shop or beauty parlor;

(8) Office or conference room;

(9) Washroom or toilet space;

(10) Medical treatment room or dispensary; or

(11) Game and hobby room.

"Balcony" means a partial deck within an accommodation space open to the deck below.

"Beam" or "B" means the maximum width of a vessel from:

(1) Outside of planking to outside of planking on wooden vessels; and

(2) Outside of frame to outside of frame on all other vessels.

"Bulbous bow" means a design of bow in which the forward underwater frames ahead of the forward perpendicular are swelled out at the forefoot into a bulbous formation.

"Bulkhead deck" means the uppermost deck to which watertight bulkheads and the watertight shell extend.

"Cable" means single or multiple insulated conductors with an outer protective jacket.

"Cargo space" [9] means a:

(1) Cargo hold;

(2) Refrigerated cargo space;

(3) Cargo oil tank;

(4) Product or chemical tank; or

(5) A trunk leading to or from a space listed above.

"Char length" means the numeric value in inches assigned to a material when tested in accordance with NFPA 260B by an independent laboratory.

"Coast Guard District Commander" or "District Commander" means an officer of the Coast Guard designated as such by the Commandant to command all Coast Guard activities within a district.

"Coastwise" means a route which is not more than 20 nautical miles offshore on any of the following waters:

(1) Any ocean;

(2) The Gulf of Mexico;

(3) The Caribbean Sea;

(4) The Gulf of Alaska; or,

(5) Such other similar waters as may be designated by a Coast Guard District Commander.

"Continuous B-Class ceiling" means an approved structural ceiling composed of B-Class panels that terminate only at an approved A-Class or B-Class bulkhead.

"Control station" [1] means a space containing:

(1) An emergency source of power;

(2) Navigating and radio equipment and which is normally manned;

(3) Centralized fire control or detection equipment, such as fixed extinguishing system controls; or

(4) Machinery controls separated from a machinery space.

"Cockpit vessel" means a vessel with an exposed recess in the weather deck extending not more than one-half of the length of the vessel measured over the weather deck.

"Commandant" means the Commandant of the Coast Guard or an authorized representative of the Commandant.

"Corrosion-resistant material" or "corrosion-resistant" means made of one of the following materials:

(1) Silver;

(2) Copper;

(3) Brass;

(4) Bronze;

(5) Aluminum alloys with a copper content of no more than 0.4 percent;

(6) Copper-nickel;

(7) Plastics; or

(8) A material, which when tested in accordance with ASTM B–117 for 200 hours, does not show pitting, cracking, or other deterioration.

"Crew accommodation space" means an accommodation space designated for the use of crew members and which passengers are normally not allowed to occupy.

"Critical radiant flux" means the numeric value assigned to a material when tested in accordance with ASTM E–648 by an independent laboratory.

"Custom engineered" means, when referring to a fixed gas fire extinguishing system, a system that is designed for a specific space requiring individual calculations for the extinguishing agent volume, flow rate, piping, etc., for the space.

"Distribution panel" means an electrical panel which receives energy from the switchboard and distributes the energy to energy consuming devices or other panels.

"Draft" means the vertical distance from the molded baseline of a vessel amidships to the waterline.

"Dripproof" means enclosed equipment so constructed or protected that falling drops of liquid or solid particles striking the enclosure at any angle from 0 to 15 degrees downward from the vertical do not interfere with the operation of the equipment. A National Electrical Manufacturers Association type 1 enclosure with a dripshield is considered to be dripproof.

"Embarkation station" means the place on the vessel from which a survival craft is boarded.

"Existing vessel" means a vessel which is not a new vessel.

"Exposed waters" is a term used in connection with stability criteria and means:

(1) Waters, except the Great Lakes, more than 20 nautical miles from a harbor of safe refuge and other waters which the Officer in Charge, Marine Inspection, determines to present special hazards due to weather or other circumstances;

(2) Those portions of the Great Lakes more than 20 nautical miles from a harbor of safe refuge from October 1 of one year through April 15 of the next year (winter season); and

(3) Those waters less than 20 nautical miles from a harbor of safe refuge that the OCMI determines are not partially protected.

"Ferry" means a vessel that:

(1) Operates in other than ocean or coastwise service;

(2) Operates on a short run on a frequent schedule between two points over the most direct water route; and

(3) Offers a public service of a type normally attributed to a bridge or tunnel.

"Fiber reinforced plastic" means plastics reinforced with fibers or strands of some other material.

"Fire control boundary" means a deck or bulkhead meeting the requirements for A-Class, B-Class, or C-Class construction in accordance with § 177.430 of this chapter.

"Fire load" means a measure in pounds per square foot equaling the weight of all combustible material in a compartment divided by the floor area of that compartment.

"Flame spread" means the numeric value assigned to a material when tested in accordance with ASTM E–84 or UL 723 by an independent laboratory.

"Flash point" means the temperature at which a liquid gives off a flammable vapor when using the Pensky-Martens Closed Cup Tester method in accordance with ASTM D–93.

"Float-free" launching or arrangement means that method of launching a survival craft whereby the survival craft is automatically released from a sinking vessel and is ready for use.

"Flush deck vessel" means a vessel with a continuous weather deck located at the uppermost sheer line of the hull.

"Freeing port" means any direct opening through the vessel's bulwark or hull to drain water overboard.

"Galley" means a space containing appliances with cooking surfaces which may exceed 250° F, such as ovens, griddles, and deep fat fryers.

"Great Lakes" means a route on the waters of any of the Great Lakes, except that for the purposes of Parts 178 and 179 of this subchapter, "Great Lakes" means both the waters of the Great Lakes and of the St. Lawrence River as far east as a straight line drawn from Cap de Rosiers to West Point, Anticosti Island, and west of a line along the 63rd meridian from Anticosti Island to the north shore of the St. Lawrence River.

"Gross tonnage" and "gross tons" is an indicator of a vessel's approximate volume as determined in accordance with Part 69 of this chapter (Measurement of Vessels) and recorded on the vessel's Certificate of Admeasurement.

"Hardwood" means any wood with a specific gravity, ovendry volume, of not less than 0.66.

"High risk accommodation space" [4] means an accommodation space with a fire load of more than 3.0.

"High risk service space" [6] means a space used as a:

(1) Motion picture projection room;

(2) Galley;

(3) Large laundry or drying room;

(4) Garbage or trash disposal storage area;

(5) Paint or lamp locker;

(6) Cleaning gear locker or small storeroom in an accommodation area; or

(7) Mail or baggage room;

"Independent laboratory" means a laboratory accepted under § 159.010 of this chapter.

"Inflatable" survival craft or lifejacket means one which depends upon non-rigid, gas filled chambers for buoyancy, and which is normally kept uninflated until ready for use.

"Interior finish" has the same meaning as used in § 164.012 of this chapter.

"International voyage" means a voyage:

(1) From a country to which the present International Convention for Safety of Life at Sea (SOLAS Convention) applies to a port outside such country or conversely;

(2) A voyage between the continental United States and Hawaii or Alaska; and

(3) A voyage between Hawaii and Alaska.

A country, as used in this definition, includes every territory for the international relations of which a contracting government to the convention is responsible or for which the United Nations are the administering authority. The term territory includes the Commonwealth of Puerto Rico, all possessions of the United States, and all lands held by the United States under a protectorate or mandate. For the purposes of this subchapter, vessels are not considered as being on an "international voyage" when solely navigating the Great Lakes and the St. Lawrence River as far east as a straight line drawn from Cap de Rosiers to West Point, Anticosti Island and, on the north side of Anticosti Island, the 63rd meridian.

"Lakes, bays, and sounds" means a route on any of the following waters:

(1) A lake other than the Great Lakes;

(2) A bay;

(3) A sound; or

(4) Such other similar waters as may be designated by a Coast Guard District Commander.

"Launching appliance" means a device for transferring a survival craft or rescue boat from its stowed position safely to the water. For a launching appliance using a davit, the term includes the davit, winch and falls.

"Length" means:

(1) The straight line horizontal measurement from the forwardmost part to the aftermost part of a vessel, or of a specifically designated deck or area of a vessel, measured parallel to the centerline and from end to end over the deck excluding sheer; or

(2) For the purposes of Part 179 of this subchapter, the "length" of a vessel with a bulbous bow means the larger of the length as defined in the first paragraph of this definition or the straight line horizontal measurement from the forwardmost tip of the bulbous bow to the aftermost part of the vessel measured parallel to the centerline.

Bow sprits, bumpkins, rudders, outboard motor brackets, handles, and other similar fittings, attachments, and extensions are not included in the "length" of a vessel.

"Length between perpendiculars" or "(LBP)" means the horizontal distance measured between perpendiculars taken at the forwardmost and aftermost points on the waterline corresponding to the deepest operating draft.

"Lining" means a bulkhead panel.

"Low risk accommodation space" [5] means an accommodation space with a fire load of not more than 3.0.

"Low risk service space" [7] means a space used as a:

(1) Small pantry with only a microwave or other low heat appliance;

(2) Main pantry or storeroom including connecting alleyways and stairs;

(3) Small laundry or drying room containing only a tub, washing machine, and/or household type electic dryer; or

(4) Workshop which is not part of a machinery space;

"Machinery space" [8] means a space including a trunk, alleyway, stairway, or duct to such a space, that contains:

(1) Propulsion machinery of any type;

(2) Steam or internal combustion machinery;

(3) Oil transfer equipment;

(4) Electrical motors of more than 10 hp;

(5) Refrigeration equipment; or

(6) One or more oil-fired boilers or heaters.

"Main horizontal zone" means a vehicle space which is separated from the remainder of the vessel by horizontal fire control boundaries required by the structural fire protection requirements of this subchapter.

"Main transverse watertight bulkhead" means a transverse bulkhead that must be maintained watertight in order for the vessel to meet the damage stability and subdivision requirements of this subchapter.

"Main vertical zone" means that section of a vessel into which the hull, superstructure, and deckhouse are required to be divided by vertical fire control boundaries required by the structural fire protection requirements of this subchapter.

"Major conversion" means a conversion of a vessel that, as determined by the Commandant:

(1) Alters the dimensions of the vessel including but not limited to gross tonnage, length, breadth, or height;

(2) Substantially increases the passenger carrying capacity of the vessel; or

(3) Adds or modifies overnight accommodation spaces for passengers so that the total number of passengers that can be accommodated in such spaces changes from not more than 49 to more than 49.

"Marine inspector" or "inspector" means any person from the civilian or military branch of the Coast Guard assigned by an Officer in Charge, Marine Inspection, or the Commandant to perform duties with respect to the inspection, enforcement, and administration of vessel safety and navigation laws and regulations.

"Master" means the individual having command of the vessel and who is the holder of a valid license which authorizes the individual to serve as master of a small passenger vessel.

"Muster station" means the place on a vessel where crew and passengers assemble in an emergency including during fires or when preparing to board survival craft.

"New vessel" means a vessel:

(1) The initial construction of which began on or after [insert effective date of regulations];

(2) Which was issued an initial Certificate of Inspection on or after [insert six months after effective date of regulations];

(3) Which underwent a major conversion which was initiated on or after [insert effective date of regulations];

(4) Which underwent a major conversion which was completed and for which an amended Certificate of Inspection was issued on or after [insert six months after effective date of regulations];

(5) Which had its authorized route on its Certificate of Inspection, increased by the cognizant OCMI from a route of lesser severity to a route of greater severity, on or after [insert effective date of regulations]; or

(6) Which, on or after [insert effective date of regulations], had the maximum number of passengers it is permitted to carry increased, on its Certificate of Inspection, from a smaller number of passengers to:

(i) More than 49 passengers;
(ii) More than 150 passengers;
(iii) More than 400 passengers;
(iv) More than 600 passengers;
(v) More than 800 passengers; or
(vi) More than 1,000 passengers.

"Noncombustible material" means any material approved under § 164.009 of this chapter.

"Nonself-propelled vessel" means a vessel which does not have installed means of propulsion including propulsive machinery, masts, spars, or sails.

"Oceans" means a route which is more than 20 nautical miles offshore on any of the following waters:

(1) Any ocean;
(2) The Caribbean Sea;
(3) The Gulf of Mexico; or
(4) Such other similar waters as may be designated by a Coast Guard District Commander.

"Officer In Charge, Marine Inspection," or "OCMI" means an officer of the Coast Guard designated as such by the Commandant and who, under the direction of the Coast Guard District Commander, is in charge of a marine inspection zone, described in Part 1 of this chapter, for the performance of duties with respect to the inspections, enforcement, and administration of vessel safety and navigation laws and regulations.

"Open boat" means a vessel not protected from entry of water by means of a complete weathertight deck, or by a combination of a partial weathertight deck and superstructure which is structurally suitable for the waters upon which the vessel operates.

"Open deck" [10] means a deck that is permanently open to the weather on one or more sides and, if covered, any spot on the overhead is less than 15 feet from the nearest opening to the weather.

"Operating station" means the principal steering station on the vessel from which the licensed individual on duty normally navigates the vessel.

"Overnight accommodations" or "overnight accommodation space" means an accommodation space for use by passengers or by crew members, which has one or more berths, including beds or bunks, for passengers or crew members to rest for extended periods. Staterooms, cabins, and berthing areas are normally overnight accommodation spaces. Overnight accommodations do not include spaces which contain only seats, including reclining seats, even if passengers remain in the seats overnight provided the seats are not intended to be used for long periods of rest.

"Partially protected waters" is a term used in connection with stability criteria and means:

(1) Waters not more than 20 nautical miles from a harbor of safe refuge, unless determined by the OCMI to be exposed waters;

(2) Those portions of rivers, estuaries, harbors, lakes, etc., which the OCMI determines not to be protected waters; and

(3) Waters of the Great Lakes from April 16 through September 30 of the same year (summer season).

"Passenger" means an individual carried on a vessel except:

(1) The owner or representative of the owner;

(2) The master or a crewmember engaged in the business of the vessel who has not contributed consideration for carriage and who is paid for services;

(3) An employee of the owner of the vessel engaged in the business of the owner, except when the vessel is operating under a demise charter;

(4) An employee of the demise charterer of the vessel engaged in the business of the demise charterer;

(5) A guest on board a vessel being operated only for pleasure who has not contributed consideration for carriage on board; or

(6) An individual on board a towing vessel of at least 50 gross tons who has not contributed consideration for carriage on board.

"Passenger accommodation space" means an accommodation space designated for the use of passengers.

"Pilothouse control" means that controls to start and stop the engines and control the direction and speed of the propeller of the vessel are located at the operating station.

"Protected waters" is a term used in connection with stability criteria and means sheltered waters presenting no special hazards such as most rivers, harbors, lakes, etc., and which is not exposed waters or partially protected waters.

"Pre-engineered" means, when referring to a fixed gas fire extinguishing system, a system that is designed and tested to be suitable for installation as a complete unit in a space of a set volume, regardless of the vessel installed on, without modification.

"Rivers" means a route on any of the following waters:

(1) A river;
(2) A canal; or
(3) Such other similar waters as may be designated by a Coast Guard District Commander.

"Sailing vessel" means a vessel principally equipped for propulsion by sail even if the vessel has an auxiliary means of propulsion.

"Scupper" means a pipe or tube of at least 1¼ inches in diameter leading from a deck or cockpit to drain water overboard.

"Service space" means a high risk service space or a low risk service space.

"Sheathing" means a covering on a bulkhead or bulkhead panel.

"Ship's service loads" means services necessary for maintaining the vessel in normal operational and habitable conditions. These loads include, but are not limited to, safety, lighting, ventilation, navigational, and communications loads.

"Short international voyage" means an international voyage where:

(1) The vessel is not more than 200 nautical miles from a port or place in which the passengers and crew could be placed in safety; and

(2) The total distance between the last port of call in the country in which the voyage began and the final port of destination does not exceed 600 nautical miles.

"Smoke developed rating" means the numeric value assigned to a material when tested in accordance with ASTM E–84 or UL 723 by an independent laboratory.

"Specific optical density" means the numeric value assigned to a material when tested in accordance with ASTM E–662 by an independent laboratory.

"Stairtower" [3] means a fully enclosed group of stairways located one above another.

"Stairway" [3] means an inclined means of escape between two decks.

"Standard fire test" means a test in which a specimen is exposed in a test furnace to temperatures corresponding to the standard time-temperature curve. The specimen must resemble, as closely as possible, the intended construction and include, where appropriate, at least one joint. The standard time-temperature curve is defined by a smooth curve drawn through the following points, starting at ambient temperature:

(1) At the end of 05 minutes—556 °C (1,033 °F);

(2) At the end of 10 minutes—659 °C (1,218 °F);

(3) At the end of 15 minutes—718 °C (1,324 °F);

(4) At the end of 30 minutes—821 °C (1,509 °F); and

(5) At the end of 60 minutes—925 °C (1,697 °F).

"Steel or equivalent material" means steel or any noncombustible material which, by itself or due to insulation provided, has structural and integrity properties equivalent to steel at the end of the standard fire test.

"Stepped main vertical zone" means a main vertical zone in which the main vertical zone bulkhead is not in a continuous plane on adjoining decks.

"Survival craft" means a lifeboat, rigid liferaft, inflatable liferaft, life float, inflatable buoyant apparatus, buoyant apparatus, or a small boat carried aboard a vessel in accordance with § 180.200(b) of this subchapter.

"Switchboard" means an electrical panel which receives power from a generator, battery, or other electrical power source and distributes power directly or indirectly to all equipment supplied by the generating plant.

"Trunk" means a vertical shaft or duct for the passage of pipes, wires, or other devices except that for the purposes of Part 179 of this subchapter, "trunk" means a large enclosed passageway through any deck or bulkhead of a vessel.

"Vehicle space" [9] means a space not on an open deck, for the carriage of motor vehicles with fuel in their tanks, into and from which such vehicles can be driven and to which passengers have access.

"Veneer" means a thin covering of combustible material on bulkheads, bulkhead panels, or furniture.

"Vessel" includes every description of watercraft or other artificial contrivance, used or capable of being used as a means of transportation on water, to which this subchapter applies.

"Vessel of the United States" means a vessel documented or numbered under the laws of the United States, the states of the United States, Guam, Puerto Rico, the Virgin Islands, American Samoa, the District of Columbia, the Northern Mariana Islands, and any other territory or possession of the United States.

"Watertight" means designed and constructed to withstand a static head of water without any leakage, except that "watertight" for the purposes of electrical equipment means enclosed so that equipment does not leak when a stream of water from a hose with a nozzle one inch in diameter that delivers at least 65 gallons per minute is played on the enclosure from any direction from a distance of ten feet for five minutes.

"Weather deck" means a deck which is partially or completely exposed to the weather from above or from at least two sides, except that for the purposes of Parts 178 and 179 of this subchapter, "weather deck" means the uppermost deck exposed to the weather to which a weathertight sideshell extends.

"Weathertight" means that water will not penetrate into the unit in any sea condition, except that "weathertight equipment" means equipment constructed or protected so that exposure to a beating rain will not result in the entrance of water.

"Well deck vessel" means a vessel with a weather deck fitted with solid bulwarks that impede the drainage of water over the sides or a vessel with an exposed recess in the weather deck extending more than one-half of the length of the vessel measured over the weather deck.

"Wire" means an individual insulated conductor without an outer protective jacket.

"Work space" means a space, not normally occupied by a passenger, in which a crew member performs work and includes, but is not limited to, a galley, operating station, or machinery space.

(c) Dynamically Supported Craft terms.

"Dynamically supported craft" or "DSC" means a vessel which:

(1) Is operable on or above the water surface;

(2) Has characteristics so different from those of a conventional displacement vessel that alternative measures must be used to achieve a level of safety equivalent to that required by laws and regulations primarily developed for conventional displacement vessels;

(3) The weight of, or a significant part thereof, is balanced in one mode of operation by other than hydrostatic forces; and

(4) Is able to operate at speeds such that the function $v/\sqrt{gL}$ is equal to or greater than 0.9, where "v" is the maximum speed in feet per second, "L" is the waterline length in feet, and "g" is acceleration due to gravity (i.e. 32.2 feet per second^2) or using other consistent units of measurement of "v", "L", and "g".

Air cushion vessels, hydrofoil vessels, and sidewall vessels are DSC. High speed catamarans and high speed monohull vessels may also be DSC if they meet the DSC definition.

"Air cushion vehicle" means a DSC for which the whole or significant part of the vessel's weight can be supported, whether at rest or in motion, by a continuously generated cushion of air dependent for its effectiveness on the proximity of the surface over which the DSC operates. Hovercraft are air cushion vehicles.

"High speed catamaran" means a planing or semi-planing vessel with twin hulls, some of the weight of which may be carried by dynamic lift.

"High speed monohull" means a planing or semi-planing vessel, some of the weight of which may be carried by dynamic lift.

"Hydrofoil vessel" means a DSC which is supported above the water surface in normal operating conditions by hydrodynamic forces generated on foils.

"Sidewall vessel" means an air-cushion vehicle whose walls extending along the sides are permanently immersed hard structures. Surface effect ships (SES) and air cushion catamarans are sidewall vessels.

"Worst intended conditions" means the specified environmental conditions within which the intentional operation of a vessel is permitted by the Certificate of Inspection. It includes parameters such as the worst conditions of wind force, allowable wave height including unfavorable combinations of length and direction of waves, minimum air temperature, speed yaw limits, visibility and depth of water for safe operation, and other parameters as the OCMI may require in considering the type of vessel in the area of operation.

§ 175.500 Conduct of an inspection for certification.

(a) Upon receipt of a written application for inspection, the Officer in Charge, Marine Inspection, assigns a marine inspector to inspect the vessel for compliance with this subchapter at a time and place mutually agreed upon by the OCMI and the owner or managing operator.

(b) The owner, managing operator, or a representative thereof shall be present during the inspection.

§ 175.510 Notice of deficiencies and requirements.

(a) If during the inspection of a vessel, the vessel or its equipment is found not to conform to the requirements of law or the regulations in this subchapter, the marine inspector will point out deficiencies observed and discuss all requirements with the owner, managing operator, or master. Normally, the marine inspector will list all such requirements which have not been completed and present the list to the owner, managing operator, or master.

(b) In any case where further clarification of or reconsideration of any requirement placed against the vessel is desired, the owner or managing operator may discuss the matter with the Officer in Charge, Marine Inspection.

§ 175.530 Alternative standards.

The owner of a vessel which does not meet the definition of a dynamically supported craft in § 175.400(c) of this part may request that the vessel be inspected for certification under the regulations in this subchapter for dynamically supported craft if the vessel:

(a) Carries not more than 400 passengers;

(b) Does not have overnight accommodations for passengers; and

(c) Operates not more than 100 miles from a harbor of safe refuge.

§ 175.540 Equivalents.

(a) The Commandant may accept in substitution for a required arrangement, fitting, appliance, apparatus, equipment, calculation, information, or test an equivalent that is as effective as that required by the regulations and is consistent with the intent of the requirements and the minimum safety standards specified in this subchapter. Requests for equivalents must be submitted to the Commandant via the cognizant OCMI and Coast Guard District Commander. If necessary, the Commandant may require engineering evaluations and tests to demonstrate the equivalence of the substitute.

(b) A dynamically supported craft may be allowed to operate in excess of the restrictions in this subchapter on the number of passengers and the route permitted for a DSC if the Commandant accepts the design, construction, arrangements, fittings, appliances, apparatus, equipment, calculations, and information on the vessel as being as effective as and consistent with the intent of the requirements and the minimum safety standards specified in this subchapter. Requests to operate a DSC under the provisions of this paragraph must be submitted to the Commandant via the cognizant OCMI and Coast Guard District Commander.

(c) The Commandant may approve a novel lifesaving appliance or arrangement as an equivalent if it has performance characteristics at least equivalent to the appliance or arrangement required under this part, and:

(1) Is evaluated and tested under IMO Resolution A.520(13), "Code of Practice for the Evaluation, Testing and Acceptance of Prototype Novel Lifesaving Appliances and Arrangements"; or

(2) Has successfully undergone evaluation and tests that are substantially equivalent to those recommendations.

§ 175.550 Special consideration.

In applying the provisions of this subchapter, the Officer in Charge, Marine Inspection, may give special consideration to departures from the specific requirements when unusual circumstances or arrangements warrants such departures and an equivalent level of safety is provided. The OCMI of each marine inspection zone in which the vessel is permitted to operate must approve any special consideration granted to a vessel.

§ 175.560 Appeals.

Any person aggrieved by any decision or action of any Officer in Charge, Marine Inspection, may appeal the decision or action to the Coast Guard District Commander having jurisdiction, and to the Commandant under the provisions of § 2.01–70 of this chapter.

§ 175.600 Incorporation by reference.

(a) In this subchapter portions or the entire text of certain industrial and government agency standards and specifications are referred to as the governing requirements for materials, equipment, tests, or procedures to be followed. These standards and specification requirements specifically referred to in this subchapter are the governing requirements for the subject matters covered unless specifically limited, modified, or replaced by other regulations in this subchapter.

(b) Materials are incorporated by reference into this subchapter with the approval of the Director of the Federal Register in accordance with 5 U.S.C. 552(a). To enforce any edition other than the one listed in paragraph (c) of this section, notice of the change must be published in the **Federal Register** and the material made available to the public. All approved material is on file at the Office of the Federal Register, Washington, DC and at the U.S. Coast Guard, Merchant Vessel Inspection Division, 2100 Second Street, SW., Washington, DC 20593–0001, and is available from the sources indicated in paragraph (c) of this section.

(c) The materials approved for incorporation by reference in this subchapter, and the sections affected, are:

American Bureau of Shipping (ABS), 45 Eisenhower Dr., Paramus, NJ 07652

Rules for Building and Classing Steel Vessels Under 61 Meters (200 Ft) in Length (1983); 177.300; 183.360

Rules for Building and Classing Reinforced Plastic Vessels (1978); 177.300

Rules for Building and Classing Aluminum Vessels (1975), 177.300

American Boat and Yacht Council (ABYC), P.O. Box 747, 405 Headquarters Dr., Suite 3, Millersville, MD 21108–0747

A–3–70—Recommended Practices and Standards Covering Galley Stoves; 184.200

A–7–70—Recommended Practices and Standards Covering Boat Heating Systems; 184.200

A–16–83—Electric Navigation Lights; 183.130

A–22–78—Marine CNG—Compressed Natural Gas Systems;

E–1–72—Bonding of Direct Current System; 183.130

E–8–85—AC Electrical Systems; 183.130

E–9–85—DC Electrical System Under 50 Volts; 183.130

H–2–81—Ventilation, Gasoline Boats; 182.130; 182.460

H–22–86—Electrically Operated Bilge Pumps; 182.130; 182.500

H–24–84—Fuel Systems—Gasoline; 182.130; 182.440; 182.445; 182.450; 182.455

H–25–86—Portable Fuel Systems for Flammable Liquids; 182.130; 182.458

H–32–81—Ventilation—Diesel Boats; 182.130; 182.465; 182.470

H–33–84—Fuel Systems—Diesel; 182.130; 182.440; 182.445; 182.450; 182.455

P–1–86—Installation of Exhaust Systems for Propulsion and Auxiliary Engines; 177.400; 182.130; 182.425; 182.430

P–4–74—Liquid Cooled Marine Engines; 182.130; 182.420

P–10–74—Air Cooled Marine Engines; 182.130; 182.420

American National Standards Institute (ANSI), United Engineering Center, 345 East 47th St., New York, NY 10017

A 17.1–1984—American Standard Safety Code for Elevators, Dumbwaiters, Escalators, and Moving Walks; 183.540

B 31.1–1986—American National Standard Code for Pressure Piping, Power Piping; 182.710

Z 26.1–1983—Safety Glazing Materials For Glazing Motor Vehicles Operating on Land Highways; 177.1030

American Society for Testing and Materials (ASTM), 1916 Race St., Philadelphia, PA 19103

B–117–79—Method of Salt Spray (Fog) Testing; 175.400

D–93–80—Flash Point By Pensky-Martens Closed Cup Tester; 175.400

E–84–81—Test for Surface Burning Characteristics of Building Materials; 175.400; 177.432(c), (g)

E–648–78—Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source; 175.400; 177.432(g)

E–662–79—Test for Specific Optical Density of Smoke Generated by Solid Materials; 175.400; 177.432(g)

Australian Transport Advisory Council, Australian Government Publishing Service, Canberra, Australia
Australia Shipping Law Code Section 5, Sub-section J, as amended to August 1, 1984; 177.300
Institute of Electrical and Electronics Engineers, Inc. (IEEE), IEEE Service Center, 445 Hoes Lane, Piscataway, N.J. 08854
Standard 45–1983—Recommended Practice for Electrical Installations on Shipboard; 183.340
International Maritime Organization (IMO), Publications Section, 4 Albert Embankment, London SE1 7SR, England
Proposed Resolution on the Installation of Reflective Tape on Lifesaving Equipment, [IMO approval expected in November, 1988]; 185.604
Lloyd's Register of Shipping, Manor Royal, Crawley, West Sussex, RH10 2 QN, England
Rules and Regulations for the Classification of Yachts and Small Craft (as amended through May 11, 1983); 177.300
National Fire Protection Association (NEPA), 60 Batterymarch Park, Quincy, MA 02269
17–1985—Dry Chemical Extinguishing Systems; 181.425
17A–1986—Wet Chemical Extinguishing Systems; 181.425
70–1987—National Electrical Code
Section 250–95, 183.370
Section 310–13, 183.340
Section 310–15, 183.340
Article 430, 183.320
260B–1983—Method of Test For Determining Resistance of Mock-up Upholstered Furniture Material Assemblies to Ignition by Smoldering Cigarettes; 175.400, 177.432(h)
302–1984—Pleasure and Commercial Motor Craft Chapter 6; 184.200
306–1984—Control of Gas Hazards on Vessels; 176.710
701–1977—Methods of Fire Tests For Flame-Resistant Textiles and RM Films; 177.432(h)
1963–1985—Screw Threads and Gaskets for Fire Hose Connections; 181.320
Naval Publications and Forms Center, Customer Service Code 1052, 5801 Tabor Ave., Philadelphia, PA 19120
Military Specification MIL–P–21929B (1970)—Plastic Material, Cellular Polyurethane, Foam-in-Place, Rigid (2 and 4 pounds per cubic foot); 179.240
Society of Automotive Engineers, 400 Commonwealth Drive, Warrendale, PA 15096–0001
SAE J1942—Hose and Hose Assemblies for Mariner Applications, [date of standard to be inserted upon publication which is expected prior to the final rule]; 182.455
Underwriters Laboratories Inc. (UL), 333 Pfingsten Road, Northbrook, IL 60062
UL 19–1978—Woven Jacketed, Rubber Lined Fire Hose; 181.320
UL 174–1983—Standard for Household Electric Stowage Tank Water Heaters; 182.320
UL 217–1985—Standard for Single and Multiple Station Smoke Detectors; 181.450
UL 486A–1978—Electric Wire Connectors and Soldering Lugs For Use With Copper Conductors; 183.340
UL 489–1986—Molded—Case Circuit Breakers and Circuit Breaker Enclosures; 183.380
UL 595–1980—Marine Type Electric Lighting Fixtures; 183.410
UL 710–1984—Grease Extractors for Exhaust Ducts; 181.425
UL 723–1983—Test for Surface Burning Characteristics of Building Materials; 175.400; 177.432(c), (g)
UL 1058–1984—Halogenated Agent Fire Extinguishing System Units; 181.410(g)
UL 1102–1980—Nonintegral Marine Fuel Tanks; 182.440
UL 1110–1976—Marine Combustible Gas Indicators; 181.480
UL 1453–1982—Electric Booster and Commercial Storage Tank Water Heaters; 182.320

§ 175.800 Approved equipment and material.

(a) Equipment and material that is required by this subchapter to be approved or of an approved type, must have been manufactured and approved in accordance with the design and testing requirements in Subchapter Q of this chapter or as otherwise specified by the Commandant.

(b) Notice regarding equipment approvals is published in the **Federal Register.** Coast Guard publication COMDTINST M 16714.3, "Equipment Lists, Items Approved, Certificated or Accepted under Marine Inspection and Navigation Laws," lists approved equipment by type and manufacturer. COMDTINST M 16714.3 may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

§ 175.900 OMB control numbers.

(a) This section lists the control numbers assigned to information collection and recordkeeping requirements in this subchapter by the Office of Management and Budget (OMB) pursuant to the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.). The Coast Guard intends that this section comply with the requirements of 44 U.S.C. 3507(f) which requires that agencies display a current control number assigned by the Director of OMB for each approved agency information collection requirement.

(b) The following control numbers have been assigned to the sections indicated: (Control numbers as assigned by OMB for all information collection and recordkeeping requirements of this subchapter will be included in the final rule.)

Section	Currently Assigned OMB Control Number
176.105(a)	
176.202	
176.204	
176.302	
176.306	
176.310	
176.500(a)	
176.612	
176.700	
176.704	
176.710	
176.810(b)	
176.920(c)	
176.930	
176.932(b)	
177.202	
177.330(b)	
177.340	
177.610(e)	
178.210	
178.220	
178.230	
181.610	
182.460(e)	
182.610	
183.320	
184.420	
184.506	
185.202	
185.206	
185.208	
185.220	
185.230	
185.260	
185.280	
185.282	
185.304(c)	
185.340(c)	
185.402	
185.502	
185.504	
185.506	
185.510	
185.514	
185.515	
185.516	
185.518	
185.602	
185.604	
185.606	
185.608	
185.610	
185.612	
185.702	
185.704(c)	
185.810	

PART 176—INSPECTION AND CERTIFICATION

Subpart A—Certificate of Inspection

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176.816 Miscellaneous systems and equipment.
176.818 Sanitary inspection.
176.830 Unsafe practices.
176.840 Additional tests and inspections.

Subpart I—International Convention for Safety of Life at Sea, 1974

176.900 Applicability.
176.910 Passenger Ship Safety Certificate.
176.920 Exemptions.
176.930 Equivalents.
176.932 Equivalency for voyages to the Bahamas.

Authority: 46 U.S.C. 2104, 3306, 49 CFR 1.46.

Subpart A—Certificate of Inspection

§ 176.100 When required.

(a) A vessel to which this subchapter applies may not be operated without having on board a valid U.S. Coast Guard Certificate of Inspection.

(b) Except as noted in § 176.114 of this subpart, each vessel inspected and certificated under the provisions of this subchapter must, during the tenure of the certificate, be in full compliance with the terms of the certificate.

(c) If necessary to prevent delay of the vessel, a temporary Certificate of Inspection may be issued pending the issuance and delivery of the regular Certificate of Inspection. The temporary certificate must be carried in the same manner as the regular certificate and is considered the same as the regular Certificate of Inspection which it represents.

(d) A vessel on a foreign voyage between a port in the United States and a port in a foreign country, whose Certificate of Inspection expires during the voyage, may lawfully complete the voyage without a valid Certificate of Inspection provided the voyage is completed within 30 days of expiration and the certificate did not expire within 15 days of sailing on the foreign voyage from a U.S. port.

§ 176.103 Description.

The Certificate of Inspection issued to a vessel describes the vessel, the route which it may travel, the minimum manning requirements, the survival and rescue craft carried, the minimum fire extinguishing equipment and lifejackets required to be carried, the maximum number of passengers and total persons which may be carried, the number of passengers the vessel may carry in overnight accommodation spaces, the name of the owner and managing operator, and such other conditions of operations as may be determined by the Officer in Charge, Marine Inspection.

§ 176.105 How to obtain or renew.

(a) A Certificate of Inspection is obtained or renewed by making application for an initial or periodic inspection on Form CG 3752, Application for Inspection of U.S. Vessel, to the Coast Guard Officer in Charge, Marine Inspection, of the marine inspection zone in which the inspection is to be made. Form CG–3752 may be obtained at any U.S. Coast Guard Marine Safety Office or Marine Inspection Office.

(b) The application for initial inspection of a vessel being newly constructed or converted must be submitted prior to the start of the construction or conversion.

(c) The construction, arrangement, and equipment of each vessel must be acceptable to the cognizant OCMI as a prerequisite of the issuance of the initial Certificate of Inspection. Acceptance is based on the information, specifications, drawings and calculations available to the OCMI and on the successful completion of an initial inspection for certification.

(d) A Certificate of Inspection is renewed by the issuance of new Certificate of Inspection.

(e) The condition of the vessel and its equipment must be acceptable to the cognizant OCMI as a prerequisite to the Certificate of Inspection renewal. Acceptance is based on the condition of the vessel as found at the periodic inspection for certification.

§ 176.107 Period of validity.

(a) A Certificate of Inspection is issued for a period of three years except that the Certificate of Inspection is issued for a period of one year for a vessel which is also issued a SOLAS Passenger Vessel Safety Certificate under § 176.910.

(b) A Certificate of Inspection may be suspended and withdrawn or revoked by the Officer in Charge, Marine Inspection, at any time for noncompliance with the requirements of this subchapter.

§ 176.110 Routes permitted.

(a) The area of operation for each vessel is designated by the Officer in Charge, Marine Inspection, and recorded on its Certificate of Inspection. Each area of operation, referred to as a route, is described on the Certificate of Inspection under the major headings "oceans," "coastwise," "Great Lakes," "lakes, bays, and sounds," or "rivers," as applicable. Further limitations imposed or extensions granted are described by reference to bodies of waters, geographical points, distance from geographical points, distances from land, depths of channel, seasonal limitations, etc.

(b) The maximum allowable distance a dynamically supported craft (DSC) may operate from a harbor of safe refuge is designated by the OCMI, after assessing the operating provisions made as required by § 185.800 of this subchapter, but may not be more than 100 nautical miles.

(c) The maximum allowable distance a vessel, inspected in accordance with the alternative standards authorized by § 175.530 of this subchapter, may operate from a harbor of safe refuge is designated by the OCMI, after assessing the operating provisions made as required by § 185.800 of this subchapter, but may not be more than 100 nautical miles.

(d) Operation of a vessel on a route of lesser severity than those specifically described or designated on the Certificate of Inspection is permitted unless expressly prohibited on the Certificate of Inspection. The general order of severity of routes is: "oceans," "coastwise," "Great Lakes," "lakes, bays, and sounds," and "rivers." The OCMI may prohibit a vessel from operating on a route of lesser severity than the primary route a vessel is

authorized to operate on if local conditions necessitate such a restriction.

(e) Nonself-propelled vessels are prohibited from operating on an "oceans" or "coastwise" route unless the Commandant approves such a route.

(f) When designating a permitted route for a vessel, the OCMI may consider:

(1) Requirements of this subchapter for which compliance is based on the route of the vessel; and

(2) The performance capabilities of the vessel based on design, scantlings, stability, subdivision, propulsion, and other characteristics.

§ 176.112 Total persons permitted.

The cognizant Officer in Charge, Marine Inspection, determines the total number of persons permitted to be carried on a vessel. In determining the total number of persons permitted to be carried, the OCMI may consider stability restrictions and subdivision requirements of the vessel, the vessel's route, general arrangement, means of escape, lifesaving equipment, the minimum manning requirements, and the maximum number of passengers permitted in accordance with § 176.113 of this subpart.

§ 176.113 Passengers permitted.

(a) The maximum number of passengers permitted to be carried on a vessel is determined by the cognizant Officer in Charge, Marine Inspection, except that the maximum number permitted shall be not more than that allowed by the requirements of this section.

(b) The maximum number of passengers permitted on any vessel, except a DSC, may be the greatest number permitted by the length of rail criterion, deck area criterion, or fixed seating criterion described in this paragraph.

(1) *Length of rail criterion.* One passenger may be permitted for each 30 inches of rail space available to the passengers at the periphery of each deck. The following rail space may not be used in determining the maximum number of passengers permitted:

(i) Rail space in congested areas unsafe for passengers, such as near anchor handling equipment or line handling gear, in the way of sail booms, running rigging, or paddle wheels, or along pulpits;

(ii) Rail space on stairways; and

(iii) Rail space where persons standing in the space would block the vision of the licensed individual operating the vessel.

(2) *Deck area criterion.* One passenger may be permitted for each 10 square feet of deck area available for the passengers' use. In computing such deck area, the areas occupied by the following shall be excluded:

(i) Concession stands;

(ii) Toilets and washrooms;

(iii) Companionways, stairways, etc.;

(iv) Spaces occupied by and necessary for handling lifesaving equipment, anchor handling equipment or line handling gear, or in the way of sail booms or running rigging;

(v) Spaces below deck which are unsuitable for passengers or which would not normally be used by passengers;

(vi) Interior passageways less than 30 inches wide and passageways on open deck less than 18 inches wide;

(vii) Bow pulpits and swimming platforms; and

(viii) Deck areas in way of paddle wheels.

(3) *Fixed seating criterion.* One passenger may be permitted for each 18 inches of width of fixed seating provided. Regulations covering the installation of fixed seating are contained in § 177.820 of this subchapter. Each sleeping berth used in determining the total number of passengers the vessel may carry in overnight accommodation spaces may be counted as only one seat.

(c) Where seats are provided in one passenger space and are not provided in other passenger spaces, the number of passengers permitted on a vessel may be the sum of the number permitted by the seating criterion for the space having seats and the number permitted by the deck area criterion for the space having no seats.

(d) For a vessel operating on short runs on protected waters such as a ferry, the Officer in Charge, Marine Inspection, may give special consideration to increases in passenger allowances.

(e) The maximum number of passengers permitted on a DSC must be determined by the fixed seating criterion but not more than 400 passengers may be permitted.

§ 176.114 Special endorsement for carrying six or less passengers.

The cognizant OCMI may permit a vessel to operate in accordance with the laws and regulations applicable to an uninspected vessel when the vessel is carrying six or less passengers by endorsing the vessel's Certificate of Inspection to allow such operation. When carrying six or less passengers, the vessel must be maintained and outfitted in compliance with the terms and conditions of its Certificate of Inspection except for the minimum manning and route restrictions.

§ 176.116 Dynamically supported craft.

(a) A dynamically supported craft (DSC) may not be operated unless:

(1) It is in compliance with the specific requirements for DSC in this subchapter, including the total number of passengers permitted by § 176.113(d) and the route permitted by § 176.110 of this subchapter; or

(2) It is granted an equivalency under § 175.540(b) of this subchapter; and

(3) The cognizant OCMI has endorsed the vessel's Certificate of Inspection with:

(i) A statement that the vessel complies with the requirements of 46 CFR Subchapter T applicable to dynamically supported craft;

(ii) For a vessel on an international voyage, a statement that the vessel complies with the provisions of the IMO Code of Safety for Dynamically Supported Craft; and

(iii) The date of approval of the vessel's Dynamically Supported Craft Operating Manual required by § 185.810 of this subchapter and a statement that the vessel must comply with the provisions of the operating manual.

(b) A vessel may not be operated under the alternative standards in § 175.530(a) of this subchapter, which allows certain vessels which are not dynamically supported craft to be certificated under the regulations in this part for dynamically supported craft, unless the cognizant OCMI has endorsed the vessel's Certificate of Inspection with:

(1) A statement that the vessel complies with the requirements of 46 CFR Subchapter T applicable to DSC in accordance with the alternative standards authorized by § 175.530(a) of this subchapter; and

(2) The date of approval of the vessel's operating manual required by § 185.810 of this subchapter and a statement that the vessel must comply with the provisions of the operating manual.

§ 176.120 Certificate of Inspection amendment.

(a) An amended Certificate of Inspection may be issued at any time by any Officer in Charge, Marine Inspection. The amended Certificate of Inspection replaces the original, but the expiration date remains the same as that of the original. An amended Certificate of Inspection may be issued to authorize and record a change in the dimensions, gross tonnage, owner, managing operator, manning, persons

permitted, route permitted, conditions of operation, or equipment of a vessel, from that specified in the current Certificate of Inspection.

(b) A request for an amended Certificate of Inspection shall be made to the Officer in Charge, Marine Inspection, by the owner or managing operator of the vessel at any time there is a change in the character of a vessel or in its route, equipment, ownership, operation, etc., as specified in its current Certificate of Inspection.

(c) The OCMI may require an inspection prior to the issuance of an amended Certificate of Inspection.

Subpart B—Special Permits and Certificates

§ 176.202 Permit to proceed.

(a) When a vessel is not in compliance with its Certificate of Inspection or fails to comply with a regulation of this subchapter, the Officer in Charge, Marine Inspection, may permit the vessel to proceed to another port for repair if in the judgment of the OCMI the trip can be completed safely even if the Certificate of Inspection of the vessel has expired or is about to expire.

(b) Form CG–948, "Permit to Proceed to Another Port for Repairs," is issued by the OCMI to the owner, managing operator, or the master of the vessel stating the conditions under which the vessel may proceed to another port. The permit is issued only upon the written application of the owner, managing operator, or master, and after the vessel's Certificate of Inspection is surrendered to the OCMI.

(c) A vessel may not carry passengers when operating in accordance with a permit to proceed.

§ 176.204 Permit to carry excursion party.

(a) The Office in Charge, Marine Inspection, may permit a vessel to engage in a temporary excursion operation with a greater number of persons and/or on a more extended route than permitted by its Certificate of Inspection when, in the opinion of the OCMI, the operation can be undertaken safely.

(b) Upon the written application of the owner or managing operator of the vessel, the OCMI may issue a "Permit To Carry Excursion Party", Form CG–949, to indicate his permission to carry an excursion party. The OCMI will indicate on the permit the conditions under which it is issued, the number of persons the vessel may carry, the crew required, any additional lifesaving or safety equipment required, the route for which the permit is granted, and the dates on which the permit is valid.

(c) The permit acts as a temporary, one-time supplement to the vessel's Certificate of Inspection and must be carried with the Certificate of Inspection. A vessel operating under a permit to carry an excursion party must be in full compliance with the terms of its Certificate of Inspection as supplemented by the permit.

(d) The OCMI may require an inspection prior to the issuance of a permit to carry an excursion party.

Subpart C—Posting of Certificates, Permits, and Stability Letters

§ 176.302 Certificates and permits.

The Certificate of Inspection, SOLAS Certificates, a Permit to Proceed, and a Permit to Carry Excursion Party must be posted under glass or other suitable transparent material in a conspicuous place on the vessel where observation by passengers is likely. If posting of certificates is impracticable, such as on open boats, the certificates shall be kept on board in a weathertight container to be shown on demand.

§ 176.306 Stability letter.

When, in accordance with § 178.210 of this subchapter, a vessel must be provided with a stability letter, the stability letter must be posted under glass or other suitable transparent material at the operating station of the vessel. If posting is impracticable, the stability letter must be kept on board in a weathertight container to be shown on demand.

§ 176.310 Certification expiration date stickers.

(a) A vessel that is issued a Certificate of Inspection under the provisions of this subchapter must not be operated without a valid Certification Expiration Date Sticker affixed to the vessel on a place that is:

(1) On a glass or smooth metal surface from which the sticker may be removed without damage to the vessel;

(2) Readily visible to each passenger prior to boarding the vessel and to patrolling Coast Guard law enforcement personnel; and

(3) Acceptable to the Coast Guard marine inspector.

(b) The Coast Guard marine inspector may require the placement of more than one sticker in order to insure compliance with paragraph (a)(2) of this section.

(c) A Certification Expiration Date Sticker indicates the date upon which the vessel's Certificate of Inspection expires and is provided by the Officer in Charge, Marine Inspection, in the number required, upon issuance or renewal of the Certificate of Inspection.

Subpart D—Inspection for Certification

§ 176.400 General.

An inspection is required before the issuance of a Certificate of Inspection. Such an inspection for certification is not made until after receipt of the application for inspection required by § 176.105 of this subchapter.

§ 176.402 Initial inspection for certification.

(a) Before construction is started or prior to the initiation of the initial inspection of an existing vessel being converted to a small passenger vessel, the owner of the vessel must submit plans, manuals, and calculations indicating the proposed arrangement, construction, and operations of the vessel, to the Officer in Charge, Marine Inspection, for approval. The plans, manuals, and calculations required to be submitted and the disposition of these plans are set forth in Subpart B of Part 177 of this subchapter.

(b) The initial inspection is conducted to determine that the vessel and its equipment comply with applicable regulations and that the vessel was built or converted in accordance with approved plans, manuals, and calculations. Additionally, during the inspection the materials, workmanship, and condition of all parts of the vessel and its machinery and equipment are checked to determine if the vessel is satisfactory in all respects for the service intended.

(c) The owner or managing operator of a vessel shall ensure that the vessel complies with the laws and regulations applicable to the vessel and that the vessel is otherwise satisfactory for the intended service. The initial inspection may include an inspection of the following items:

(1) The arrangement, materials, and scantlings of the structure including the hull and superstructure, yards, masts, spars, rigging, sails, piping, main and auxiliary machinery, pressure vessels, steering apparatus, electrical installations, lifesaving appliances, fire detecting and extinguishing equipment, pollution prevention equipment, and all other equipment;

(2) Sanitary conditions and fire hazards; and

(3) Certificates and operating manuals including certificates issued by the Federal Communications Commission.

(d) During an initial inspection for certification the owner or managing operator shall conduct all tests and make the vessel available for all applicable inspections discussed in this

paragraph, and in Subpart H of this part, to the satisfaction of the OCMI.

(1) The installation of each rescue boat launching appliance and each other survival craft launching appliance must be inspected and tested as required by § 71.20–20(a)(1) of Subchapter W of this chapter.

(2) The installation of each rescue boat, liferaft, inflatable buoyant apparatus, and launching appliance must be inspected to determine that it meets each condition of its approval, as listed on its Certificate of Approval (Form CGHQ–10030).

(3) Machinery, fuel tanks, and pressure vessels must be inspected and tested as required by Part 182 of this subchapter.

(4) A stability test or a simplified stability test must be conducted when required by § 170.175 of this chapter or § 178.320 of this subchapter.

(5) Watertight bulkheads must be tested as required by Part 179 of this subchapter.

(6) Firefighting systems must be tested as required by Part 181 of this subchapter.

(7) A demonstration of the effects of a failure on a dynamically supported craft must be conducted when required by the OCMI.

(8) An evacuation demonstration must be conducted on a dynamically supported craft to verify that the vessel complies with § 177.560 of this subchapter. The evacuation demonstration must consist of:

(i) A full abandon ship drill using the total number of persons permitted on the vessel; or

(ii) A series of evacuations from each individual space on the vessel using the maximum number of persons permitted to occupy the space.

§ 176.404 Subsequent inspections for certification.

An inspection for renewal of a Certificate of Inspection normally includes inspection and testing of the structure, machinery, equipment, and on a sailing vessel, rigging and sails. The owner or managing operator shall conduct all tests as required by the marine inspector, and make the vessel available for all specific inspections required by Subpart H of this part. The inspection is conducted to determine if the vessel is in satisfactory condition, fit for the service intended, and complies with the applicable regulations in this subchapter.

Subpart E—Reinspection

§ 176.500 When required.

(a) The owner or managing operator shall make a vessel available for reinspections within 60 days of each anniversary of the date of issuance of the Certificate of Inspection during each triennial inspection period. The owner or managing operator shall contact the OCMI to arrange for a reinspection to be conducted at a time and place acceptable to the OCMI.

(b) In addition to the requirements of paragraph (a) of the section, a reinspection may be made at such other times as may be required by the cognizant OCMI.

§ 176.502 Scope.

(a) In general, the scope of the reinspection is the same as the inspection for certification but in less detail unless it is determined that a major change has occurred since the last inspection for certification.

(b) During a reinspection a marine inspector may examine all accessible parts of the vessel's hull, machinery, and equipment with particular emphasis on lifesaving and firefighting equipment to check for satisfactory condition.

Subpart F—Hull and Tailshaft Examinations

§ 176.600 Drydock and internal structural examination intervals.

(a) The owner or managing operator shall make a vessel available for drydock examinations and internal structural examinations required by this section.

(b) A vessel making an international voyage must a undergo a drydock examination and an internal structural examination once every 12 months.

(c) Except as provided in paragraphs (d) through (f) of this section, a vessel not making an international voyage must undergo a drydock examination and an internal structural examination as follows:

(1) A vessel that operates in salt water more than three months in any 12 month period since the last examinations must undergo a drydock examination and an internal structural examination at least once every two years; and

(2) A vessel that operates in salt water not more than three months in any 12 month period since the last examinations must undergo a drydock examination and an internal structural examination at least once every five years.

(d) A vessel with a wooden hull must undergo a drydock examination and an internal structural examination at least once every two years regardless of the type of water in which it operates.

(e) Whenever damage or deterioration to hull plating or structural members, which may affect the seaworthiness of a vessel, is discovered, the OMCI may conduct an internal structural examination in any affected space including fuel tanks, and require the vessel to be drydocked or otherwise taken out of service to further assess the extent of the damage and to effect permanent repairs.

(f) A vessel on a voyage between a port in the United States and a port in a foreign country, which becomes due for a drydock examination or an internal structural examination during the voyage, may lawfully complete the voyage prior to the examination being conducted provided that:

(1) The vessel must undergo the required examination upon completion of the voyage to the United States but not later than 30 days after the examination was due; and

(2) A vessel which is due for an examination within 15 days of sailing on a foreign voyage from a United States port must undergo the required examination before sailing.

(g) Whenever a vessel is drydocked or hauled out in excess of the requirements of this section, a marine inspector may examine the vessel.

§ 176.610 Scope of drydock and internal structural examinations.

(a) A drydock examination conducted in compliance with § 176.600 (a), (b), or (c) of this subpart must be conducted while the vessel is hauled out of the water or placed in a drydock or slipway. During the examination all accessible parts of the vessel's underwater body and all through-hull fittings, including the hull plating and planking, appendages, propellers, shafts, bearings, rudders, sea chests, sea valves, and sea strainers must be examined. Sea chests, sea valves, and sea strainers must be opened for examination.

(b) An internal structural examination conducted in compliance with § 176.600 (a), (b), or (c) of this subpart may be conducted while the vessel is afloat or out of the water and consists of a complete examination of the vessel's main strength members, including the major internal framing, the hull plating and planking, voids, and ballast, cargo, and fuel oil tanks. Where the internal framing, plating, or planking of the vessel is concealed, sections of the lining, ceiling or insulation may be removed or the parts otherwise probed or exposed so that the inspector may be

satisfied as to the condition of the hull structure. Fuel oil tanks need not be cleaned out and internally examined if the marine inspector is able to determine by external examination that the general condition of the tanks is satisfactory.

§ 176.612 Notice and plans required.

(a) Whenever a vessel is to be hauled out or placed in a drydock or slipway in compliance with § 176.600 of this subpart or to undergo major repairs or alterations affecting the safety or seaworthiness of the vessel, the owner or managing operator shall report the same, together with the nature of any repairs or alterations contemplated, as far in advance as practicable, to the OCMI in order that a marine inspector may conduct an appropriate examination.

(b) Whenever a vessel is hauled out or placed in a drydock or slipway in excess of the requirements of this subpart, for the purpose of minor repairs or maintenance, such as changing a propeller, painting, or cleaning the hull, no report need be made to the OCMI.

(c) The owner or managing operator of each vessel that holds a Load Line Certificate shall make plans showing the vessel's scantlings available to the Coast Guard marine inspector whenever the vessel undergoes a drydock examination or internal structural examination or whenever repairs or alterations affecting the safety or seaworthiness of the vessel are made to the vessel's hull.

§ 176.630 Tailshaft examinations.

The marine inspector may require any part or all of the propeller shafting to be drawn for examination of the shafting and stern bearing of a vessel whenever the condition of the shafting and bearings are in question. The inspector may conduct a visual examination and may require nondestructive testing of the tailshaft if necessary.

§ 176.670 Extension of examination intervals.

The Commandant may authorize extensions of the intervals between drydock examinations and internal structural examinations. Requests for extensions must be submitted via the cognizant OCMI and Coast Guard District Commander.

Subpart G—Repairs and Alterations

§ 176.700 Permission for repairs and alterations.

(a) Repairs or alterations to the hull, machinery, or equipment which affect the safety of the vessel must not be made without the approval of the Officer in Charge, Marine Inspection, except during an emergency. When repairs are made during an emergency, the owner, managing operator, or master shall notify the OCMI as soon as practicable after such repairs or alternations are made. Repairs or alterations which affect the safety of the vessel include but are not limited to the replacement, repair, or refastening of deck or hull planking, plating, and structural members; repair of plate or frame cracks; repair or replacement of electrical wiring, fuel lines, tanks, boilers, and other pressure vessels; alterations affecting stability; and repair or alteration of lifesaving, fire detecting, or fire extinguishing equipment.

(b) The owner or managing operator shall submit drawings, sketches, or written specifications describing the details of any proposed alterations to the OCMI. The OCMI must approve a proposed alteration before work is started.

(c) Drawings are not required to be submitted for repairs or replacements in kind.

(d) The OCMI may require an inspection and testing whenever a repair or alteration is undertaken.

§ 176.702 Installation tests and inspections.

Whenever a launching appliance, survival craft, rescue boat, fixed fire extinguishing equipment, machinery, fuel tank, or pressure vessel is installed aboard a vessel after completion of the initial inspection for certification of the vessel, as replacement equipment or as a new installation, the owner or managing operator shall conduct the tests and make the vessel ready for the inspections required by § 176.402(d) to the satisfaction of the OCMI.

§ 176.704 Breaking of safety valve seals.

The owner, managing operator, or master shall notify the cognizant OCMI as soon as practicable after the seal on a boiler safety valve on a vessel is broken.

§ 176.710 Inspection and testing for gas hazards.

(a) The provisions of NFPA 306, "Control of Gas Hazards on Vessels," should be used as a guide in ensuring confined spaces on a vessel are suitable for entering.

(b) Until an inspection has been conducted to determine that the operations can be undertaken safely in accordance with the procedures of paragraph (c) of this section, no alterations, repairs, or other operations involving riveting, welding, burning, or other fire-producing actions may be made aboard a vessel:

(1) Within or on the boundaries of fuel tanks; or

(2) To pipelines, heating coils, pumps, fittings, or other appurtenances connected to fuel tanks.

(c) An inspection required by paragraph (b) of this section must be conducted as required by this paragraph.

(1) In ports or places in the United States or its territories and possessions, a marine chemist certificated by the National Fire Protection Association shall conduct the inspection. However, if the services of such certified marine chemist are not reasonably available, the Officer in Charge, Marine Inspection, upon the recommendation of the vessel owner or managing operator, may authorize another person to inspect the particular vessel. If the inspection indicates that the operations can be undertaken safely, a certificate setting forth this fact in writing shall be issued by the certified marine chemist or the authorized person before the work is started. The certificate must include any requirements necessary to reasonably maintain safe conditions in the spaces certified throughout the operation, including any precautions necessary to eliminate or minimize hazards that may be present from protective coatings or residues from cargoes.

(2) When not in a port or place in the United States or its territories and possessions, and when a marine chemist or a person authorized by the Officer in Charge, Marine Inspection, is not reasonably available, the master shall conduct the inspection and enter the results of the inspection in the vessel's logbook.

(d) The owner, managing operator, or master shall obtain a copy of certificates issued by the certified marine chemist or the other person authorized by the OCMI, and shall ensure that all conditions on the certificates are observed and that the vessel is maintained in a safe condition. The owner, managing operator, or master shall maintain a safe condition on the vessel by requiring full observance, by persons under his control, of all requirements listed in the certificate.

Subpart H—Material Inspections

§ 176.800 Inspection standards.

(a) A vessel is inspected for compliance with the standards required by this subchapter. Machinery, equipment, materials, and arrangements not covered by standards in this subchapter may be inspected in

accordance with standards acceptable to the Officer in Charge, Marine Inspection, as good marine practice.

(b) In the application of inspection standards due consideration must be given to the hazards involved in the operation permitted by a vessel's Certificate of Inspection. Thus, the standards may vary in accordance with the vessel's area of operation or any other operational restrictions or limitations.

(c) The published standards of classification societies and other recognized safety associations may be used as a guide in the inspection of vessels insofar as such standards do not conflict with the requirements of this subchapter.

§ 176.802 Hull.

(a) At each initial and subsequent inspection for certification of a vessel, the owner or managing operator shall be prepared to conduct tests and have the vessel ready for inspections of the hull structure and its appurtenances, including the following:

(1) Inspection of all accessible parts of the exterior and interior of the hull, the watertight bulkheads, and weather decks;

(2) Inspection and operation of all watertight closures in the hull, decks, and bulkheads;

(3) Inspection of the condition of the superstructure, masts, and similar arrangements constructed on the hull, and on a sailing vessel all spars, standing rigging, running rigging, blocks, fittings, and sails;

(4) Inspection of all railings and bulwarks and their attachment to the hull structure;

(5) Inspection to ensure that guards or rails are provided in dangerous places;

(6) Inspection and operation of all weathertight closures above the weather deck and the provisions for drainage of sea water from the exposed decks; and

(7) Inspection of all interior spaces to ensure that they are adequately ventilated and drained, and that means of escape are adequate and properly maintained.

(b) The vessel must be afloat for at least a portion of the inspection as required by the marine inspector.

(c) When required by the marine inspector, a portion of the inspection must be conducted while the vessel is underway so that the working of the hull can be observed.

§ 176.804 Machinery.

At each initial and subsequent inspection for certification of a vessel, the owner or managing operator shall be prepared to conduct tests and have the vessel ready for inspections of machinery, fuel, and piping systems, including the following:

(a) Operation of the main propulsion machinery both ahead and astern;

(b) Operational test and inspection of engine control mechanisms including primary and alternate means of starting machinery;

(c) Inspection of all machinery essential to the routine operation of the vessel including generators and cooling systems;

(d) External inspection of fuel tanks and inspection of tank vents, piping, and pipe fittings;

(e) Inspection of all fuel systems;

(f) Operational test of all valves in fuel lines by operating locally and at remote operating positions;

(g) Operational test of all overboard discharge and intake valves and watertight bulkhead pipe penetration valves;

(h) Operational test of the means provided for pumping bilges including testing to ensure that the bilge pump can simultaneously pump bilges and charge the fire main, if applicable; and

(i) Test of machinery alarms including bilge alarms.

§ 176.806 Electrical.

At each initial and subsequent inspection for certification of a vessel, the owner or managing operator shall be prepared to conduct tests and have the vessel ready for inspection of electrical equipment and systems, including the following:

(a) Inspection of all cable as far as practicable without undue disturbance of the cable or electrical apparatus;

(b) Test of circuit breakers by manual operation;

(c) Inspection of fuses including ensuring the ratings of fuses are suitable for the service intended;

(d) Inspection of rotating electrical machinery essential to the routine operation of the vessel;

(e) Inspection of all generators, motors, lighting fixtures and circuit interrupting devices located in spaces or areas which may contain flammable vapors;

(f) Inspection of batteries for condition and security of stowage;

(g) Operational test of electrical apparatus, which operates as part of or in conjunction with a fire detection or alarm system installed on board the vessel, by simulating, as closely as practicable, the actual operation in case of fire; and

(h) Operational test of all emergency electrical systems.

§ 176.808 Lifesaving.

(a) At each initial and subsequent inspection for certification of a vessel, the owner or managing operator shall be prepared to conduct tests and have the vessel ready for inspections of lifesaving equipment and systems, including the following:

(1) Tests of each rescue boat and each rescue boat launching appliance and survival craft launching appliance in accordance with § 71.25–15 of Subchapter H of this chapter;

(2) Inspection of each lifejacket, work vest, and marine buoyant device;

(3) Inspection of each inflatable liferaft and inflatable lifejacket to determine that it has been serviced under § 185.730 of this chapter; and

(4) Inspection of each hydrostatic release unit to determine that it has been serviced as required by § 185.740 of this chapter.

(b) Each item of lifesaving equipment determined by the marine inspector to not be in serviceable condition must be repaired or replaced.

(c) Each item of lifesaving equipment with an expiration date on it must be replaced if the expiration date has passed.

(d) The owner or managing operator shall destroy, in the presence of the marine inspector, each lifejacket, other personal floatation device, and other lifesaving device found to be defective and incapable of repair.

(e) At each initial and subsequent inspection for certification of a vessel, the vessel must be equipped with an adult size lifejacket for each person authorized. The vessel must also be equipped with child-size lifejackets equal to at least 10 percent of the maximum number of passengers permitted to be carried unless children are prohibited from being carried aboard the vessel.

(f) Lifejackets, work vests, and marine buoyant devices may be marked with the date and marine inspection zone to indicate that they have been inspected and found to be in serviceable condition by a marine inspector.

(g) The marine inspector may require that an abandon ship or man overboard drill be held at each initial and subsequent inspection for certification under simulated emergency conditions to be specified by the inspector.

§ 176.810 Fire protection.

(a) At each initial and subsequent inspection for certification, the owner or managing operator shall be prepared to conduct tests and have the vessel ready for inspection of its fire protection equipment, including the following:

(1) Inspection of each hand portable fire extinguisher, semi-portable fire extinguisher, and fixed gas fire extinguishing system to check for excessive corrosion and general condition;

(2) Inspection of piping, controls, and valves, and the inspection and testing of alarms and ventilation shutdowns, for each fire extinguishing system and detecting system to determine that the system is in operating condition;

(3) Operation of the fire main system and checking of the pressure at the most remote and highest outlets;

(4) Testing of each firehose to a test pressure equivalent to its maximum service pressure;

(5) Checking of each cylinder containing compressed gas to ensure it has been tested and marked in accordance with § 147.60 of this chapter; and

(6) Testing or renewal of flexible connections on semi-portable extinguishers and fixed gas extinguishing systems in accordance with § 147.65 of this chapter.

(b) The owner, managing operator, or a qualified servicing facility must conduct the tests and inspections required in Tables 176.810 (b)(1) and (b)(2) of this part at least once every twelve months. The owner or managing operator must provide satisfactory evidence of the required servicing to the marine inspector. If any of the equipment or records have not been properly maintained, a qualified servicing facility may be required to perform the required tests, inspections, and necessary maintenance.

(c) The owner, managing operator, or master shall destroy, in the presence of the marine inspector, each fire hose found to be defective and incapable of repair.

(d) The marine inspector may require that a fire drill be held at each initial and subsequent inspection for certification under simulated emergency conditions to be specified by the inspector.

TABLE 176.810(b)(1).—PORTABLE EXTINGUISHERS

Type unit	Test
Foam	Discharge. Clean hose and inside of extinguisher thoroughly. Recharge.
Carbon dioxide	Weigh cylinders. Recharge if weight loss exceeds 10% of weight of charge. Inspect hose and nozzle to be sure they are clear.
Dry chemical (cartridge—operated type)	Examine pressure cartridge and replace if end is punctured or if cartridge is otherwise determined to have leaked or to be in unsuitable condition. Inspect hose and nozzle to see they are clear. Insert charged cartridge. Be sure dry chemical is free-flowing (not caked) and chamber contains full charge.
Dry chemical (stored pressure type)	See that pressure gauge is in operating range. If not, or if seal is broken, weigh or otherwise determine that full charge of dry chemical is in extinguisher. Recharge if pressure is low or if dry chemical is needed.
Halon 1211 or Halon 1301	See that pressure gauge, if provided, is in operating range. Recharge if pressure is low. Weigh cylinder. Recharge if weight loss exceeds 10% of weight of charge. Inspect hose and nozzle to ensure they are clear.

TABLE 176.810(b)(2).—FIXED SYSTEMS

Type system	Test
Carbon dioxide or Halon 1301	Weigh cylinders. Recharge if weight loss exceeds 10% of weight of charge. Test time delays, alarms, and ventilation shutdowns with CO_2 or other nonflammable gas.

§ 176.812 Pressure vessels and boilers.

(a) Periodic inspection and testing requirements for pressure vessels are contained in Subpart 61.10 of this chapter.

(b) Periodic inspection and testing requirements for boilers are contained in Subpart 61.05 of this chapter.

§ 176.814 Steering systems.

At each initial and subsequent inspection for certification the owner or managing operator shall test the steering systems of the vessel and make them available for inspection to the extent necessary to determine that they are in suitable condition and fit for the service intended. Servo-type power systems, such as orbitrol systems, must be tested in the manual mode, with hydraulic pumps secured, to determine if the system can be smoothly operated by a single person.

§ 176.816 Miscellaneous systems and equipment.

At each initial and subsequent inspection for certification the owner or managing operator shall test and make available for inspection all items in the ship's outfit, such as ground tackle, navigation lights and equipment, markings, placards, etc., which are required to be carried by the regulations in this subchapter, as necessary to determine that they are fit for the service intended.

§ 176.818 Sanitary inspection.

At each inspection for certification and at every other vessel inspection quarters, toilet and washing spaces, galleys, serving pantries, lockers, etc., may be examined to determine that they are serviceable and in a sanitary condition.

§ 176.830 Unsafe practices.

(a) At each inspection for certification and at every other vessel inspection all observed unsafe practices, fire hazards, and other hazardous situations must be corrected and all required guards and protective devices must be in satisfactory condition.

(b) At each inspection for certification and at every other vessel inspection the bilges and other spaces may be examined to see that there is no accumulation of oil or other matter which might create a fire hazard.

§ 176.840 Additional tests and inspections.

The OCMI may require that a vessel and its equipment undergo any additional test or inspection deemed necessary to determine that the vessel and its equipment are suitable for the service in which they are to be employed.

Subpart I—International Convention for Safety of Life at Sea, 1974

§ 176.900 Applicability.

(a) Except as otherwise provided in this subpart, a mechanically propelled

vessel of the United States, which carries more than 12 passengers on an international voyage must be in compliance with the applicable requirements of the International Convention for Safety of Life at Sea to which the United States Government is currently a party (SOLAS Convention).

(b) The SOLAS Convention does not apply to a vessel solely navigating the Great Lakes and the St. Lawrence River as far east as a straight line drawn from Cap de Rosiers to West Point, Anticosti Island and, on the north side of Anticosti Island, the 63rd Meridian.

§ 176.910 Passenger Ship Safety Certificate.

(a) A vessel, which carries more than 12 passengers on an international voyage except a voyage between the continental United States and Hawaii or Alaska or a voyage between Hawaii and Alaska, must have a valid SOLAS Convention Passenger Ship Safety Certificate. The Commandant issues the Passenger Ship Safety Certificate after receiving notification from the cognizant OCMI that the vessel complies with the applicable SOLAS Convention regulations.

(b) The route specified on the Certificate of Inspection and the Passenger Ship Safety Certificate must agree.

(c) A SOLAS Convention Passenger Ship Safety Certificate is issued for a period of not more than 12 months.

(d) The Passenger Ship Safety Certificate may be withdrawn, revoked, or suspended at any time when the vessel is not in compliance with applicable SOLAS Convention requirements.

§ 176.920 Exemptions.

(a) In accordance with Regulation 4, Chapter I (General Provisions) of the International Convention for Safety of Life at Sea, 1974, the Commandant may exempt a vessel, which is not normally engaged on an international voyage but which in exceptional circumstances is required to undertake a single international voyage, from any of the requirements of the regulations of the SOLAS Convention provided that the vessel complies with safety requirements which are adequate in the Commandant's opinion for the voyage which is to be undertaken.

(b) In accordance with Regulation 1, Chapter II-1 (Construction—Subdivision and Stability, Machinery and Electrical Installations), Regulation 1, Chapter II-2 (Construction—Fire Protection, Fire Detection and Fire Extinction), and Regulation 2, Chapter III (Life Saving Appliances and Arrangements) of the SOLAS Convention, the Commandant may exempt a vessel, which does not proceed more than 20 miles from the nearest land, from any of the specific requirements of Chapters II-1, II-2, and III of the SOLAS Convention if he considers that the sheltered nature and conditions of the voyage are such as to render the application of such requirements unreasonable or unnecessary.

(c) The Commandant may exempt a vessel from requirements of the regulations of the SOLAS Convention in accordance with paragraphs (a) and (b) of this section upon a written request from the owner or managing operator submitted via the cognizant OCMI and Coast Guard District Commander.

(d) When the Commandant grants an exemption to a vessel in accordance with this section, the Commandant will issue an Exemption Certificate describing the exemption. An Exemption Certificate is not valid for longer than the period of the Passenger Ship Safety Certificate to which it refers.

§ 176.930 Equivalents.

In accordance with Regulation 5, Chapter I (General Provisions) of the SOLAS Convention, the Commandant may accept an equivalent to a particular fitting, material, appliance, apparatus, or any particular provision required by the SOLAS Convention regulations if satisfied that such equivalent is at least as effective as that required by the regulations. An owner or managing operator of a vessel may submit a request for the acceptance of an equivalent following the procedures in § 175.540 of this subchapter. The Commandant will indicate the acceptance of an equivalent on the vessel's SOLAS Convention Passenger Ship Safety Certificate.

§ 176.932 Equivalency for voyages to the Bahamas.

(a) The Commandant may determine that a vessel of the United States, other than a DSC, operating on voyages between the east coast of Florida and the Bahamas and not more than 30 miles from land, complies with requirements equivalent to those SOLAS requirements made applicable by § 176.900 of this subpart if the vessel:

(1) Complies with all other applicable provisions of this subchapter;

(2) Is certificated to carry not more than 49 passengers;

(3) Is certificated to operate on an ocean route not more than 100 miles from shore;

(4) Is equipped with a LORAN C set and a fathometer;

(5) Is equipped with two fixed bilge pumps which may be combination bilge/fire pumps; and

(6) Is equipped with inflatable liferafts of an aggregate capacity which will accommodate the total number of persons permitted on board.

(b) An owner or managing operator of a vessel may request the equivalency determination in paragraph (a) of this section by following the procedures in § 175.540 of this subchapter. The Commandant will indicate the equivalency determination on the vessel's SOLAS Convention Passenger Ship Safety Certificate.

PART 177—CONSTRUCTION AND ARRANGEMENT

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Authority: 46 U.S.C. 2104, 3306; 49 CFR 1.46.

Subpart A—General Provisions

§ 177.100 General requirement.

The construction and arrangement of a vessel must allow the safe operation of the vessel in accordance with the terms of its certificate of inspection giving consideration to provisions for a seaworthy hull, protection against fire, means of escape in case of a sudden unexpected casualty, guards and rails in hazardous places, ventilation of enclosed spaces, and necessary facilities for passengers and crew.

§ 177.115 Applicability to existing vessels.

(a) Except as otherwise required by paragraph (b) of this section, an existing vessel must comply with the regulations in this part or with the construction and arrangement regulations which were applicable to the vessel on [insert date of day before effective date of regulations].

(b) New construction or arrangements, regulated by this part, made to an existing vessel on or after [insert effective date of regulations] must comply with the regulations of this part. Repairs or maintenance conducted on an existing vessel, resulting in no changes to the original construction or arrangement of the vessel, must comply with the regulations in this part or the regulations applicable to the vessel on [insert date of day before effective date of regulations].

Subpart B—Plans

§ 177.202 Plans and information required.

(a) Except as provided in paragraph (b) of this section and § 177.210 of this part, the owner of a vessel requesting initial inspection for certification shall, prior to the start of construction if practicable, submit for approval to the cognizant Officer in Charge, Marine Inspection, at least two copies of the following plans, manuals, analysis, and calculations that are applicable to the vessel as determined by the OCMI:

(1) Midship section;

(2) Outboard profile;

(3) Inboard profile;

(4) Arrangement of decks;

(5) Machinery installation;

(6) Electrical installation including:

(i) Elementary one-line diagram of the power system, supported by cable lists, bills of materials, and other information including:

(A) Type and size of generators and prime movers;

(B) Type and size of generator cables, bus-tie cables, feeders, and branch circuit cables;

(C) Power, lighting, and interior communication panelboards with number of circuits and rating of energy consuming devices;

(D) Type and capacity of storage batteries; and

(E) Rating of circuit breakers and switches, interrupting capacity of circuit breakers, and rating and setting of overcurrent devices;

(ii) Electrical plant load analysis; and

(iii) For a vessel of more than 65 feet in length with overnight accommodations for more than 49 passengers, an overcurrent protective device coordination analysis if the information required by paragraph (a)(6)(i) of this section is not considered adequate by the OCMI to review the electrical system of the vessel;

(7) Lifesaving equipment locations and installation;

(8) Ventilation diagrams;

(9) Engine exhaust diagram;

(10) Fire main system plans and calculations;

(11) Fixed gas fire extinguishing system plans and calculations;

(12) Fire detecting system and smoke detecting system plans;

(13) Sprinkler system plans and calculations;

(14) Portable fire extinguisher types, sizes and locations;

(15) Structural fire protection details and the fire load calculations of accommodation and service spaces;

(16) Escape routes for fire or flooding and muster stations;

(17) Fuel tanks;

(18) Piping systems including: Firemain, bilge, ballast, hydraulic, sanitary, compressed air, combustible and flammable liquids, vents, soundings, and overflows;

(19) Hull penetrations and shell connections;

(20) Lines and offsets, curves of form, cross curves of stability, and tank capacities including size and location on vessel;

(21) Masts, including integration into the ship's structure, on sailing vessels;

(22) Rigging plan showing sail areas and centers of effort as well as the arrangement, dimensions, and connections of the standing rigging for sailing vessels;

(23) Steering and steering control;

(24) Marine sanitation device model number, approval number, connecting wiring and piping;

(25) Propulsion and propulsion control; and

(26) For a dynamically supported craft:

(i) Evacuation plan in accordance with § 177.560 of this part;

(ii) Operating manual in accordance with § 185.810 of this subchapter;

(iii) An analysis of occurrences resulting in total failure of steering, thruster, or stabilization systems, the need for outside assistance, dangerous degradation of the handling or strength of the vessel, or other unsafe conditions;

(iv) Any standards used to design the vessel's structure;

(v) Data supporting the safety of the design obtained, as appropriate, from calculations, tests, and trials;

(vi) A fatigue loading analysis, including identification of structural areas susceptible to fatigue failure, and an inspection plan to monitor those areas;

(vii) A statement of the sea state and wind conditions which will require cessation of operations and the historical frequency of the occurrence of these conditions in the anticipated operating area;

(viii) A statement of the most severe wind and sea conditions historically encountered in the anticipated operating

area, and the frequency of occurrence of those conditions; and

(ix) A statement of unique loading conditions, such as wakes of passing vessels or wind conditions in operating areas where sea states will not be limiting.

(b) For a vessel of not more than 65 feet in length, except a dynamically supported craft, the owner may submit specifications, sketches, photographs, line drawings or written descriptions instead of any of the required drawings, provided the required information is adequately detailed and acceptable to the Officer in Charge, Marine Inspection.

(c) When authorized by the OCMI, an owner may submit any plans, manuals, or calculations, required to be submitted to the OCMI by this part, to the Commanding Officer, U.S. Coast Guard Marine Safety Center.

(d) For a vessel, the construction of which was begun prior to approval of the plans and information required by paragraphs (a) and (b) of this section, the OCMI may require any additional plans and information, manufacturers' certifications of construction, testing including reasonable destructive testing, and inspections, which the OCMI determines is necessary to verify that the vessel complies with the requirements of this subchapter.

§ 177.210 Plans for sister vessels.

(a) Plans are not required for a vessel which is a sister vessel, provided:

(1) Approved plans for the original vessel are on file at the U.S. Coast Guard Marine Safety Center (MSC) or in the files of the cognizant Officer in Charge, Marine Inspection;

(2) The owner of the plans authorizes their use for the new construction of the sister vessel;

(3) The regulations used for the original plan approval have not changed since the original approval; and

(4) There are no major modifications to any of the systems to be used.

(b) If approved plans of the original vessel are not on file at the MSC or with the OCMI, the vessel owner must submit plans as described in § 177.202 of this subpart.

Subpart C—Hull Structure

§ 177.300 Structural design.

Except as otherwise allowed by this subpart, a vessel must comply with the structural design requirements of one of the following standards appropriate for the hull material of the vessel:

(a) Wooden hull vessels: Rules and Regulations for the Classification of Yachts and Small Craft, Lloyd's Register of Shipping (Lloyd's);

(b) Steel hull vessels:

(1) Rules and Regulations for the Classification of Yachts and Small Craft, Lloyd's; or

(2) Rules for Building and Classing Steel Vessels Under 61 Meters (200 Ft) in Length, American Bureau of Shipping (ABS);

(c) Fiber reinforced plastic vessels:

(1) Rules and Regulations for the Classification of Yachts and Small Craft, Lloyd's; or

(2) Rules for Building and Classing Reinforced Plastic Vessels, ABS;

(d) Aluminum hull vessels:

(1) Rules and Regulations for the Classification of Yachts and Small Craft, Lloyd's;

(2) For a vessel of more than 100 feet in length: Rules for Building and Classing Aluminum Vessels, ABS; or

(3) For a vessel of not more than 100 feet in length: Rules for Building and Classing Steel Vessels Under 61 Meters (200 Feet) in Length, ABS, with the appropriate conversions from the ABS Rules for Building and Classing Aluminum Vessels;

(e) Ferrocement hull vessels: Australian Transport Advisory Council Shipping Laws Code Section 5, Subsection J.

§ 177.310 Satisfactory service as a design basis.

When scantlings for the hull, deckhouse, and frames of a vessel of not more than 65 feet in length differ from those specified by the standards listed in § 177.300 of this subpart, and the owner can demonstrate that a vessel approximating the same size, power, and displacement has been built to such scantlings, and has performed satisfactorily in the same service insofar as structural adequacy is concerned for a period of at least 5 years, such scantlings may be approved by the OCMI instead of the scantlings required by the applicable standards specified in § 177.300.

§ 177.315 Vessels of not more than 65 feet in length carrying not more than 12 passengers.

The scantlings for a vessel of not more than 65 feet in length carrying not more than 12 passengers may be approved by the OCMI if the builder of the vessel establishes to the satisfaction of the OCMI that the design and construction of the vessel is adequate for the intended service.

§ 177.320 Dynamically supported craft.

The structural design of dynamically supported craft may be approved by the Commandant based on the route and anticipated operating conditions of the vessel.

§ 177.330 Sailing vessels.

The design, materials, and construction of masts, posts, yards, booms, bowsprits, and standing rigging on a sailing vessel must be suitable for the intended service. The hull structure must be adequately reinforced to ensure sufficient strength and resistance to plate buckling. Detailed calculations on the strength of the mast, post, yards, booms, bowsprits, and standing rigging may be required by the OCMI.

§ 177.340 Alternate design considerations.

When the structure of vessel is of novel design, unusual form, or special materials, which cannot be reviewed or approved under § 177.300, § 177.310, § 177.315 or § 177.320 of this subpart, the structure may be approved by the Commandant when it can be shown by systematic analysis based on engineering principles that the structure provides adequate safety and strength. The owner must submit detailed plans, material component specifications, and design criteria, including the expected operating environment, resulting loads on the vessel, and design limitations for such vessel, to the OCMI.

Subpart D—Fire Protection

§ 177.400 General arrangement and outfitting.

(a) *Fire hazards to be minimized.* The general construction of the vessel must be such as to minimize fire hazards insofar as it is reasonable and practicable.

(b) *Combustibles insulated from heated surfaces.* Internal combustion engine exhausts, boiler and galley uptakes, and similar sources of ignition must be kept clear of and suitably insulated from combustible material. Dry exhaust systems for internal combustion engines on wooden or fiber reinforced plastic vessels must be installed in accordance with American Yacht and Boat Council Standard P–1.

(c) *Separation of Machinery and Fuel Tank Spaces from Accommodation Spaces.*

(1) Except as otherwise provided in this section, machinery and fuel tank spaces must be separated from accommodation spaces by boundaries which prevent the passage of vapors.

(2) A watertight engine box may be accepted as a substitute for vaportight boundaries.

(d) *Paint and flammable liquid lockers.* Paint and flammable liquid lockers must be constructed of steel or

equivalent material, or wholly lined with steel or equivalent material.

(e) *Vapor barriers.* Vapor barriers must be provided where insulation of any type is used in spaces where flammable and combustible liquids or vapors are present, e.g. machinery spaces and paint lockers.

(f) *Waste receptacles.* Waste receptacles must be constructed of noncombustible materials with no openings in the sides or bottom.

(g) *Paint.* Paint thickness on the interior surfaces of any enclosed or partially enclosed space must not exceed 0.075 inch. Nitrocellulose or other highly flammable or noxious fume producing paints or lacquers must not be used.

(h) *Mattresses.* All mattresses must comply with 16 CFR Part 1632, Subpart A, the U.S. Department of Commerce Standard for Mattress Flammability (FF 4–72.16). Polyurethane foam mattresses are prohibited.

§ 177.420 Structural fire protection for vessels carrying not more than 150 passengers or with overnight accommodations for not more than 49 passengers.

(a) *Applicability.* A vessel carrying not more than 150 passengers and a vessel with overnight accommodations for not more than 49 passengers must comply with the requirements of this section.

(b) *Fiber reinforced plastic.* When the hull, decks, deckhouse, or superstructure of a vessel is partially or completely constructed of fiber reinforced plastic, including composite construction, the resin used must have a flame spread of not more than 100.

(c) *Cooking areas.* Vertical or horizontal surfaces within three feet of cooking appliances must have a flame spread rating of not more than 75. Curtains, draperies, or free hanging fabrics must not be fitted within three feet of cooking or heating appliances.

§ 177.430 Fire control boundaries for vessels carrying more than 150 passengers.

(a) *Applicability.* A vessel carrying more than 150 passengers, without overnight accommodations for more than 49 passengers, must comply with the requirements of this section.

(b) *Type, location, and construction of fire control bulkheads and decks.* (1) The hull, structural bulkheads, columns and stanchions, superstructures, and deckhouses must be composed of steel or equivalent material.

(2) Bulkheads and decks must be classed as A–60, A–30, A–15, A–0, B–15, B–0, or C.

(i) A–Class bulkheads or decks must be composed of steel or equivalent material, suitably stiffened and made intact with the main structure of the vessel, such as the shell, structural bulkheads, and decks. They must be so constructed that, if subjected to the standard fire test, they are capable of preventing the passage of smoke and flame for 1 hour. In addition, they must be so insulated with approved structural insulation, bulkhead panels, or deck covering that within the time listed below the average temperature on the unexposed side does not rise more than 250 °F (139 °C) above the original temperature, nor would the temperature at any one point, including any joint, rise more than (181 °C) 325 °F above the original temperature:

A–60 Class	60 minutes.
A–30 Class	30 minutes.
A–15 Class	15 minutes.
A–0 Class	0 minutes.

(ii) B–Class bulkheads must be constructed of noncombustible materials and made intact from deck to deck, or to the ceiling as provided in paragraph (b)(6) of this section, and to shell or other boundaries. They must be so constructed that, if subjected to the standard fire test, they are capable of preventing the passage of flame for one-half hour. In addition, their insulation value must be such that within the time listed below the average temperature of the unexposed side does not rise more than 250 °F (139 °C) above the original temperature, nor does the temperature at any one point, including any joint, rise more than 405 °F (225 °C) above the original temperature:

B–15 Class	15 minutes.
B–0 Class	0 minutes.

(iii) C–Class bulkheads and decks must be composed of noncombustible materials.

(3) The hull, superstructure, and deck houses of a vessel, except for a vehicle space on a vehicle ferry, must be subdivided by bulkheads into main vertical zones which:

(i) Are not more than 131 feet in length on any one deck; and

(ii) May have small horizontal steps, provided the steps:

(A) Do not exceed 10 feet; and

(B) Are of A–60 Class construction.

(4) Main vertical zone bulkheads must be of at least A–30 Class construction or meet the requirements of paragraph (c) of this section, whichever is greater.

(5) Vehicle decks on a vehicle ferry may be subdivided by main horizontal zones instead of main vertical zones.

(6) A B–Class bulkhead need not extend above an approved continuous B–Class ceiling.

(7) Where B–15 Class bulkhead panels are required to extend above the ceiling to the deck above, or beyond the lining to the shell, the portion of the bulkhead panel within the void space need only meet B–0 class requirements.

(8) Where B–Class bulkhead panels are used, all four edges of the panel must be retained by a continuous frame of steel or equivalent material on both sides of the panel offering an overlap of not less than ¾ inch.

(9) Ceiling or lining panels must be retained by continuous flanges of steel or equivalent material on the exposed side of the panel offering an overlap of not less than ¾ inch on each panel. Material incidental to the installation of the panels must be approved noncombustible material.

(10) Any sheathing, furring, or holding pieces incidental to the securing of structural insulation must be of approved noncombustible material.

(11) Where linings or bulkhead panels are framed away from the shell or structural bulkheads, the deck within the void space so formed need only meet A–0 Class requirements.

(12) Penetrations in A–Class fire control boundaries for electrical cables, pipes, trunks, ducts, etc. must be constructed to prevent the passage of flame and smoke for one hour. In addition, the penetration must be designed or insulated so that it will withstand the same temperature rise limits as the boundary penetrated.

(13) Penetrations in B–Class fire control boundaries for electrical cables, pipes, trunks, ducts, etc. must be constructed to prevent the passage of flame for 30 minutes. In addition, the penetration must be designed or insulated so that it will withstand the same temperature rise limits as the boundary penetrated.

(c) *Bulkhead requirements.* The minimum requirements for bulkheads between various spaces must be as noted in Table 177.430(c).

TABLE 177.430(c)

Spaces	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Control Station (1)	B-0	A-0	A-0	A-30	A-15	A-60	A-0	A-60	A-60	A-0	A-0
Passageway (2)		C	A-0	B-15	B-0	A-0	A-0	A-0	A-15	A-0	A-0
Stairway (3)			A-0	A-15	A-0	A-15	A-0	A-30	A-15	A-0	A-0
High Risk Accommodation Space (4)				A-15	B-15	A-30	A-30	A-60	A-30	A-15	A-0
Low Risk Accommodation Space (5)					B-0	A-15	A-0	A-30	A-0	A-0	A-0
High Risk Service Space (6)						A-0	A-0	A-0	A-15	A-15	A-0
Low Risk Service Space (7)							C	A-0	A-0	A-0	A-0
Machinery Space (8)								A-0	A-0	A-15	A-0
Cargo or Vehicle space (9)									A-0	A-0	A-0
Open Deck, Embarkation, or Muster Station (10)										A-0	A-0
Voids, Fuel Tanks, or Water Tanks (11)											A-0

(d) *Deck requirements.* The minimum requirements for decks between the various spaces must be as noted in Table 177.430(d).

TABLE 177.430(d)

Space below, Space above	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Control Space (1)	A-0	A-15	A-0	A-30	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Passageway (2)	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Stairways (3)	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
High Risk Accommodation Space (4)	A-60	A-30	A-30	A-60	A-15	A-30	A-15	A-30	A-30	[1] A-0	A-0
Low Risk Accommodation Space (5)	A-15	A-0	A-15	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
High Risk Service Space (6)	A-60	A-30	A-30	A-60	A-15	A-30	A-30	A-30	A-30	[1] A-0	A-0
Low Risk Service Space (7)	A-15	A-0	A-15	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Machinery Space (8)	A-60	A-60	A-60	A-60	A-30	A-30	A-30	A-0	A-30	[1] A-0	A-0
Cargo or Vehicle Space (9)	A-60	A-30	A-30	A-30	A-0	A-0	A-0	A-0	A-0	[1] A-0	A-0
Open Deck, Embarkation, or Muster Station (10)	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Voids, Fuel Tanks, or Water Tanks (11)	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0

[1] Decks forming boundaries for a muster station or an embarkation station must be of at least A-60 class construction.

§ 177.432 Fire load and outfitting on vessels carrying more than 150 passengers.

(a) *Applicability.* A vessel carrying more than 150 passengers, without overnight accommodations for more than 49 passengers, must comply with the requirements of this section.

(b) *Fire load of accommodation spaces.*

(1) The maximum fire load of a high risk accommodation space must not be more than 6.0.

(2) The maximum fire load of a low risk accommodation space must not be more than 3.0.

(3) Fire load calculations must include all integral, free standing, or loose combustible material intended for use or storage in a space such as deck coverings, carpets, rugs, furniture, upholstery, draperies, ceiling material not tested under § 164.008 of this chapter, combustible insulation, fiberglass window boxes, and lifesaving equipment.

(c) *Ceilings, linings, trim, veneers, and decorations.*

(1) Ceilings, linings, and any furring incidental to their installation, in a control station, accommodation space, service space, stairway, stairtower, or passageway must be of noncombustible material, except as provided in paragraphs (c)(2) and (c)(3) of this section.

(2) Combustible acoustical material listed by Underwriters Laboratories for use in fire resistant construction, and having a flame spread rating of not more than 20 and a smoke developed rating of not more than 10 when tested in accordance with ASTM E-84 or UL 723, may be used in ceilings in any service space, control station, or accommodation space except stairways or stairtowers. These materials may not be used in lieu of required structural insulation and must be included in the fire load calculations of the space.

(3) Gypsum wallboard listed by Underwriters Laboratories for use in fire resistant construction and having a flame spread rating of not more than 20 and a smoke developed rating of not more than 10, when tested in accordance with ASTM E-84 or UL 723, may be used as a lining in any accommodation space, service space, or control station. These materials may not be used in lieu of required structural insulation, and their facing material must not be of more than 0.075 inches in thickness. Only noncombustible material, except paint in compliance with § 177.400(g), may be added to the face of gypsum wallboard.

(4) Except as provided in paragraphs (c)(5) or (c)(6) of this section, interior finishes including veneers, trim, and moldings used in an accommodation space, service space, stairway, stairtower, passageway or concealed spaces such as behind linings or ceilings, must be approved under § 164.012 of this chapter but need not be included in the fire load calculations of the space.

(5) Interior finishes of not more than 0.075 inches in thickness, listed by Underwriters Laboratories as coatings and sheathings, with a flame spread rating of not more than 20 and a smoke developed rating of not more than 10, when tested in accordance with ASTM E-84 or UL 723, may be used in an accommodation space, service space, stairway, stairtower, passageway, or concealed spaces such as behind linings or ceilings in lieu of material approved under § 164.012 of this chapter. These coatings and sheathings need not be included in the fire load calculations of the space.

(6) Bulkheads, linings, and ceilings in a high risk accommodation space may have a combustible veneer of not more than 0.075 inches in thickness. These combustible veneers must be included in the fire load calculations of the space and must not be used or extend into concealed spaces, such as behind ceilings or linings or between bulkheads.

(7) Interior finishes of more than 0.075 inches in thickness must be of noncombustible material.

(d) *Draft stops.* Draft stops must be fitted not more than 45 feet apart in a concealed space above a ceiling or between a lining and the shell of a vessel. Draft stops must be of A–Class or B–Class construction and be fitted in a vertical position.

(e) *Combustible material in concealed spaces.* Limited amounts of combustible materials, such as wiring insulation, sound deadening inserts for piping, and cable ties, are permitted in concealed spaces in any accommodation space, service space, or control station except as otherwise prohibited by this section.

(f) *Use of combustible insulation.*

(1) Combustible insulation must not be used for structural insulation in fire control boundaries.

(2) Insulation and all material incidental to its installation, installed in an accommodation space, service spaces, or control station for any purpose, must be noncombustible material, except as provided in paragraph (f)(3) of this section.

(3) Combustible insulation may be installed in a cargo space, refrigerated storeroom, or individual refrigerator box or used for pipe and machinery covering or lagging within a machinery space. Foamed insulation must have a flame spread rating of not more than 25.

(g) *Deck coverings.*

(1) A deck within any accommodation space, service space, or a control station may not be covered with any material of more than 3/8 inch in thickness for leveling purposes or by a hardwood deck covering of more than 3/8 inch in thickness. An approved noncombustible material may be used in any thickness. Materials approved under § 164.006 of this chapter must be used in approved thicknesses.

(2) Rugs, carpets, and flooring used in an accommodation space or service space must:

(i) Be wool;

(ii) Have a flame spread rating of not more than 75 and a smoke developed rating of not more than 100, when tested to ASTM E–84 or UL 723 by an independent laboratory; or

(iii) Withstand a critical radiant flux of not less than 0.45 when tested to ASTM E–648, and have a specific optical density of not more than 450 when tested to ASTM E–662. The test must be conducted by an independent laboratory and the specific optical density value used for evaluation must be the higher of the flaming and non-flaming values measured during the tests.

(3) Rugs, carpets, and flooring used in stairways, passageways, and stairtowers must comply with paragraph (g)(2) of this section except that the critical radiant flux withstood must not be less than 0.81.

(4) Rugs and carpets must not extend up the bulkhead more than four inches above a deck.

(h) *Furniture and furnishing requirements.*

(1) Case furniture such as lockers, counters, desks, and cabinets must be composed of approved noncombustible material or of hardwood. Surfacing materials must have a flame spread rating of not more than 100 or be hardwood.

(2) Free standing furniture such as chairs, sofas, tables, etc. must be constructed with frames of approved noncombustible material or hardwood. Surfacing materials must have a flame spread rating of not more than 100 or be hardwood.

(3) Upholstered seating must have a char length of not more than 1½ when tested to NFPA 260B by an independent laboratory.

(4) All draperies, curtains, and free hanging materials, must meet the large and small scale test standards of NFPA 701.

§ 177.434 Windows and air ports in fire control boundaries on vessels carrying more than 150 passengers.

(a) A vessel carrying more than 150 passengers, without overnight accommodations for more than 49 passengers, must comply with the requirements of this section.

(b) Windows or air ports must be of glass of at least 1/4 inch in thickness. The use of other glazing material such as polycarbonate sheets may be approved for specific installations by the Commandant.

(c) Windows or air ports in bulkheads adjacent to passageways must not extend below a point 36 inches above the deck.

(d) Windows or air ports in A–Class bulkheads must be fitted with frames of steel or equivalent material. Glazing beads or angles of steel or equivalent material must be installed to hold glass in place in windows or air ports in a fire control boundary in event of a fire if:

(1) Where a steel frame is used, it is not arranged to retain the glass in place; or

(2) A frame of aluminum or other material with low melting point is used.

(e) A window or air port which is adjacent to an embarkation station, muster station, escape route, or survival craft stowage must be:

(1) Of A–Class construction; or

(2) Fitted with shutters, operable from outside the space, of steel or equivalent material.

(f) A window installed in an internal fire control boundary must comply with the requirements of § 72.05–30 of this chapter, except that fire window frames and glazing material listed by Underwriters Laboratories may be used in B–Class bulkheads.

(g) Windows in doors in fire control boundaries must comply with the requirements of paragraphs (b) through (f) of this section.

§ 177.436 Doors on vessels carrying more than 150 passengers.

(a) A door, other than a watertight door, on a vessel carrying more than 150 passengers, without overnight accommodations for more than 49 passengers, must meet the requirements of this section.

(b) A door in a fire control boundary must meet the following requirements:

(1) A door must be capable of operation from either side by one person;

(2) A door in an accommodation space, stairway, stairtower, passageway, or control station must open in the direction of escape, where practicable;

(3) Combustible veneers may be used on doors subject to the same restrictions as the fire control boundary in which the doors are fitted;

(4) Door frames must be of rigid construction and provide at least a ½ inch overlap at the sides and top, except:

(i) Double doors capable of independent operation and latching may have a clearance between the doors of not more than ⅛ inch. However, if one door must always be closed first, an astragal strip of at least ½ inch overlap must be provided for the second door; and

(ii) A double swing door, may have a clearance of not more than ⅛ inch at the top and sides;

(5) The maximum width of an individual door must not exceed 48 inches; and

(6) Hose ports, if fitted, must be in the lower corner of the door opposite the hinge so a hose may pass through the doorway when the door is open and still allow the door to close over the hose. The hose port should be approximately 6 inches square. A hinged or pivoted steel or equivalent material cover must be fitted in the opening, equipped to allow easy and automatic operation of the hinged cover.

(c) Doors in A–Class fire control boundaries must meet the following additional requirements:

(1) A door in a bulkhead required to be A–60, A–30, or A–15 Class must be of hollow steel or equivalent material construction, solidly filled with approved structural insulation, and capable of meeting the requirements of an A–15 Class bulkhead;

(2) A door in a bulkhead required to be A–0 Class must be of solid or hollow steel or equivalent material construction, and capable of meeting the requirements of an A–0 Class bulkhead;

(3) A door must have a latch with a minimum throw of ¾ inch;

(4) A door must not have vent grilles or louvers;

(5) A door must not be undercut more than ½ inch above the door sill or deck covering. Rugs and carpets must not pass through doorways, but linoleum and similar deck coverings may;

(6) A door in a stairtower, stairway, and main vertical zone bulkhead must meet the following additional requirements:

(i) A door must be of the self-closing type capable of closing against a 3½ degree list of the vessel; and

(ii) A hold back mechanism for a door must allow the door to be released locally, upon a signal from a control station, and upon disruption of the power system. Holdback hooks are not allowed;

(7) A horizontal door may close a stairway provided it meets the following requirements:

(i) The door must be self-closing with a closure time of not less that 5 seconds and not more than 10 seconds, and be capable of closing against a 3½ degree list of the vessel;

(ii) A hold back mechanism for a door must allow the door to be released locally, upon a signal from a control station, and upon disruption of the power system. Holdback hooks are not allowed;

(iii) The forces required to fully open the door must not exceed 5 pounds to release the latch, 10 pounds to set the door in motion, and 5 pounds to open the door to the width of the stairway; and

(iv) The door latch must be capable of keeping the door closed when a pressure of 0.01 psi is applied to the underside of the door.

(8) Double swing doors must not be used in any bulkhead except between a food preparation space, such as a galley or pantry, and a messroom or dining room; and

(9) A door opening onto weather decks must meet the requirements of paragraphs (c)(1) or (c)(2) of this section or may be composed of hardwood of not less than 1¾ inches in thickness.

(d) A door in B–Class bulkhead must meet the following requirements:

(1) A door must be of solid or hollow steel or equivalent material construction, or must be of noncombustible material and be specifically approved by the Commandant;

(2) A door must have a latch with a minimum throw of 3/8 inch;

(3) A door must not be undercut more than 1 inch above the door sill or deck covering. Rugs and carpets must not pass through doorways but linoleum and similar coverings may; and

(4) A door may have a vent grille or louver in the lower half of the door, with an area of not more than 2.0 square feet, made of noncombustible material.

(e) A door in a C–Class bulkhead must be of noncombustible material.

(f) A door used for decorative purposes, and which is not required to comply with paragraphs (b) through (e) of this section, must be constructed of noncombustible material or hardwood, must not interfere with the normal operation of the required doors, and must open in the same direction as the required doors. Decorative doors must not be used in stairways or stairtowers.

§ 177.438 Stairtowers, stairways, ladders, and elevators on vessels carrying more than 150 passengers.

(a) Stairtowers, stairways, landings, ladders, and elevators on a vessel carrying more than 150 passengers, without overnight accommodations for more than 49 passengers, must comply with the requirements of this section.

(b) Stairways, stairtowers, ladders, elevators, and landings must be composed of steel and be of sufficient strength to sustain a load of 100 pounds per square foot with a safety factor of 4 in the design.

(c) A stairway or stairtower must be fitted with handrails on both sides at a vertical height above the tread at its nosing of between 33 and 36 inches. A stairway or stairtower of more than 66 inches in width must also be fitted with a center handrail.

(d) A handrail fitted in a stairtower, stairway, landing, ladder, or elevator must be constructed of noncombustible material.

(e) A stairway or stairtower must be clear of all obstructions other than handrails.

(f) Curved, spiral, or winding stairways are not permitted without the specific approval of the Commandant.

(g) Differences in the depth of tread or height of riser of stairs in different flights of stairs in a stairway or stairtower must be minimized. In an individual flight of stairs in a stairway or stairtower, the depth of the tread and the height of riser of each stair must be the same.

(h) In a stairway or stairtower, the sum of the riser height and tread depth must be at least 17 inches and not more than 18 inches. A stairway or stairtower having treads less than 10 inches in depth must have a nosing of one inch in width or other means to provide the equivalent room on the tread.

(i) Landings for stairways and stairtowers must meet the following requirements:

(1) A clear landing having an area at least equal to the square of the tread width must be provided at the top and bottom of each stairway; and

(2) Any interruption or change of direction in a stairway must be accomplished by means of an intermediate landing of a width and length at least equal to the tread width of the stairway.

(j) A stairway or stairtower must not have an angle of inclination from the horizontal of more than 40 degrees.

(k) An elevator shaft and a stairtower must have a door at each deck served.

(l) A stairway serving only two decks must have a door installed at one deck complying with the requirements of § 177.436 (b) and (c) of this chapter, except in an accommodation space where the stairway serves a balcony and is fully contained within the same space as the balcony.

(m) Each main vertical zone must be served by at least one stairtower, so that a person may escape, from any accommodation space or any other space where persons may be normally quartered or employed, to all other decks having any such spaces within the same main vertical zone, without coming out of the stairtower enclosure. Each stairtower must give access to a muster station or, if a muster station does not extend to the portion of the vessel in which the stairtower is located, to at least one weather deck from which a muster station may be reached by means of stairways. Where a stairtower is accessible from two main vertical zones, it may be considered as the required stairtower for both main vertical zones provided all boundaries of the stairtower meet main vertical zone boundary requirements contained in § 177.430 of this chapter.

(n) The minimum tread width of a stairway or stairtower must be 0.3 inch for each person served, but must not be less than 36 inches.

(1) The minimum tread width of a stairway or stairtower must be

determined for each deck considering only those persons on that deck, except as provided in paragraph (n)(3) of this section. Once a minimum tread width has been established at any deck, it must not be decreased in the direction of escape.

(2) In determining the number of persons served, a space must be considered to contain at least the number of persons as follows:

(i) Passenger overnight accommodation spaces: Designed capacity;

(ii) Crew overnight accommodation spaces: Two-thirds designed capacity;

(iii) Accommodation spaces having fixed seating for passengers: Maximum seating capacity;

(iv) Lounges, club rooms, etc.: A person for every 10 square feet of deck area; and

(v) Work spaces: Occupancy under normal operating conditions.

(3) If a stairway forms part of a normal embarkation or debarkation route, the number of persons using the stairway for that purpose must be used in determining the minimum tread width.

(4) If more than one stairtower serves a main vertical zone, the number of persons in that main vertical zone may be distributed among the stairtowers.

§ 177.439 Balconies on vessels carrying more than 150 passengers.

(a) A vessel carrying more than 150 passengers must meet the requirements of this section.

(b) An accommodation space containing a balcony or which has an opening creating two levels within the space must meet the following requirements:

(1) The aggregate area of balconies or partial decks within the space must not be more than 80 percent of the total area of the lowest deck in the space;

(2) The maximum fire load of a high risk accommodation space containing a balcony or partial deck must not be more than 3.0; and

(3) The maximum fire load of a low risk accommodation space containing a balcony or partial deck must not be more than 1.5.

(c) Balconies or partial decks are not permitted on more than one level within an accommodation space.

§ 177.440 Structural fire protection for vessels with overnight accommodations for more than 49 passengers.

A vessel with overnight accommodations for more than 49 passengers must comply with § 72.05 of this chapter.

§ 177.450 Structural fire protection for dynamically supported craft.

(a) *Applicability.* A dynamically supported craft may comply with the requirements of this section instead of the requirements of §§ 177.420, 177.430, 177.432, 177.434, 177.436, and 177.438 of this subchapter.

(b) *Structural fire protection.* (1) The hull, decks, deckhouse, and superstructure must be of approved noncombustible material, except that fiber reinforced plastic material may be used with the specific approval of the Commandant.

(2) Furniture, furnishings, veneers, interior finish, rugs, carpets, and ceiling and acoustical tiles must comply with the applicable requirements in § 177.432 of this part.

(3) The boundaries of machinery spaces, galleys, and control stations must be designed to prevent the passage of flame and smoke in the standard fire test for a period of at least three times the evacuation time of the vessel plus seven minutes, but for not less than 30 minutes. Insulation or bulkhead/ceiling panels used for this purpose must be of an approved type.

Subpart E—Escape and Muster Station Requirements

§ 177.500 Means of escape.

(a) Except as otherwise provided in this section, each space accessible to passengers or used by the crew on a regular basis, must have at least two means of escape, one of which must not be a watertight door.

(b) The two required means of escape must be widely separated and, if possible, at opposite ends or sides of the space to minimize the possibility of one incident blocking both escapes.

(c) At least one means of escape from each space must provide a satisfactory route to an embarkation station on a vessel required to have survival craft and to a muster station required by § 177.520 of this subpart.

(d) Subject to the restrictions of this section, means of escape may include normal exits and emergency exits, passageways, stairways, ladders, deck scuttles, and windows.

(e) The number and dimensions of the means of escape from each space must be sufficient for rapid evacuation in an emergency for:

(i) Passenger overnight accommodation spaces: Designed capacity;

(ii) Crew overnight accommodation spaces: Two-thirds of designed capacity;

(iii) Passenger accommodation spaces having fixed seating: Maximum seating capacity;

(iv) Passenger accommodation spaces for which the capacity is not based on fixed seating: A person for every 10 square feet of deck area; and

(v) Work spaces: Occupancy under normal operating conditions.

(f) The number and dimensions of the means of escape from an accommodation space, with a balcony with a stairway within the space, must also permit not less than two-thirds of the persons on each level to exit on that level.

(g) The dimensions of a means of escape must be such as to allow easy movement of persons when wearing lifejackets. There must be no protrusions in means of escape which could cause injury, ensnare clothing, or damage lifejackets.

(h) The minimum clear opening of a door used for a means of escape from a space which is designed for more than 49 passengers must be at least 32 inches in width. The sum of the width of all doors used as means of escape from such a space must be at least 0.3 inch times the number of passengers for which the space is designed.

(i) A dead end passageway or the equivalent, of more than 40 feet in length, is prohibited.

(j) The maximum allowable travel distance from the most remote point in a space to the nearest means of escape must not be more than 150 feet.

(k) Each door, hatch, or scuttle, used as a means of escape, must be capable of being opened by one person, from either side, in both light and dark conditions. The method of opening a means of escape must be obvious, rapid, and of adequate strength. Handles and securing devices must be permanently installed and not capable of being easily removed. A door, hatch or scuttle must open toward the expected direction of escape from the space served.

(l) A means of escape which is not readily apparent to a person from both inside and outside the space, must be adequately marked.

(m) A vertical ladder and deck scuttle may not be used as a means of escape except:

(1) On a vessel of not more than 65 feet in length, a vertical ladder and a deck scuttle may be used as one of the means of escape from a passenger accommodation space; and

(2) As one of the required means of escape from any crew accommodation space or workspace.

(n) Each vertical ladder, used as a means of escape, must have rungs that are:

(1) At least 16 inches in width;

(2) Not more than 12 inches apart, but uniformly spaced for the length of the ladder with 4½ inches clearance above each rung; and

(3) At least 3 inches from the nearest permanent object in back of the ladder.

(o) When a deck scuttle serves as a means of escape, it must be fitted with a quick-acting release and a holdback to hold the scuttle in an open position.

(p) Footholds, handholds, ladders, etc., provided to aid escape, must be suitable for use in emergency conditions, of rigid construction, and permanently fixed in position, unless they can be folded, yet brought into immediate service in an emergency.

(q) On a vessel of not more than 65 feet in length, a window or windshield of sufficient size and proper accessibility may be used as one of the required means of escape from an enclosed space, provided it:

(1) Does not lead directly overboard;

(2) Can be opened or is designed to be kicked or pushed out; and

(3) Is suitably marked.

(r) Only one means of escape is required from a space where:

(1) The maximum dimension of a space is less than 12 feet;

(2) There is no source of fire in the space such as a stove, heater, etc.;

(3) The means of escape is located as far as possible from a machinery space or fuel tank; and

(4) If an accommodation space, the single means of escape does not include a deck scuttle or a ladder.

(s) Alternative means of escape from spaces may be provided if acceptable to the cognizant OCMI.

§ 177.510 Embarkation stations.

(a) A vessel carrying more than 150 passengers or with overnight accommodations for more than 49 passengers, which is equipped with survival craft, must have at least one designated survival craft embarkation station and any additional embarkation stations necessary so that an embarkation station is readily accessible from each accommodation space and work space.

(b) Each embarkation station must be arranged to allowed the safe boarding of survival craft.

§ 177.520 Muster stations.

(a) A vessel carrying more than 150 passengers, or with overnight accommodations for more than 49 passengers, must have designated muster stations, the number and arrangements of which must comply with this section, except that the following vessels are not required to have muster stations:

(1) A vessel on which the fire load of each accommodation space is not more than 1.5 and all machinery and high risk service spaces are separated from the remainder of the vessel by A–60 fire control boundaries; or

(2) A dynamically supported craft.

(b) The aggregate size of muster stations must:

(1) Be adequate to accommodate all passengers while wearing lifejackets; and

(2) Provide a minimum of 6 square feet per passenger.

(c) The largest accommodation space on a vessel must not be designated as a muster station, except as permitted by paragraph (d) of this section, to ensure that one casualty does not hinder the passengers' ability to seek refuge and prepare for evacuation.

(d) If a vessel is divided by main vertical zone bulkheads, muster stations must be designated in each main vertical zone. A designated muster station may be the largest accommodation space in each main vertical zone.

(e) A muster station must be close to an embarkation station and readily accessible from accommodation spaces and work spaces.

(f) An embarkation station may also serve as a muster station.

§ 177.550 Additional requirements for dynamically supported craft.

(a) In addition to the requirements set forth in § 177.500 of this subpart, a means of escape for a dynamically supported craft must meet the requirements of this section.

(b) Notices must be provided to direct passengers to means of escape.

(c) Each of the two means of escape, required by § 177.500(a) of this part, must lead to an embarkation station.

(d) Each door or hatch used as a means of escape on a DSC must be capable of opening even with persons crowding against one side of the door.

(e) The closing, latching, and locking arrangement for normal exits must be such that it is readily apparent to the appropriate crew member when the doors are closed and in a safe operational condition, either in direct view or by an indicator.

§ 177.560 Evacuation time for dynamically supported craft.

(a) The owner of a dynamically supported craft shall submit an evacuation plan, including a description of the provisions for evacuation and proposed evacuation procedures, to the Officer in Charge, Marine Inspection, prior to the start of construction.

(b) If the OCMI considers it necessary, the owner must calculate an evacuation time to ensure that the structural fire protection required by § 177.450 of this part is adequate. In the absence of more reliable data, the calculated evacuation time is the greater of.

(1) The time necessary to launch and make a survival craft ready for embarkation, plus allowing 5 seconds per person as the time to fill the survival craft to its required capacity; or

(2) Allowing 10 seconds per person as the time necessary to launch, make ready for embarkation, and fill the survival craft.

(c) The inability to simultaneously prepare survival craft for launching and loading during an evacuation must be considered when calculating the evacuation time for a DSC.

(d) The evacuation time determined from the evacuation demonstration, required by § 176.402(d)(8) of this subchapter, must verify that the fire control boundaries on the vessel are suitably insulated to meet the requirements of § 177.450(b)(3) of this part.

Subpart F—Ventilation

§ 177.600 Ventilation of enclosed and partially enclosed spaces.

(a) An enclosed or partially enclosed space within a vessel must be adequately ventilated in a manner suitable for the purpose of the space and as further required by this subpart.

(b) Ventilation openings serving enclosed or partially enclosed spaces, including openings in ventilation ducts and pipes, ventilators, louvers, etc., must:

(1) Be above the main deck;

(2) Not penetrate the hull or bulwarks of the vessel; and

(3) When determined necessary by the OCMI, be fitted with closure devices suitable for preventing the entry of water in adverse weather conditions.

(c) Suitable means including a manual damper, automatic damper, or vent cover, must be provided in an accessible location, outside the space served by the ventilation duct, for shutting off the passage of air through the ventilation duct in the event of fire.

(d) A power ventilation system must be capable of being shut down from outside the space the system is serving.

(e) An enclosed crew accommodation space and any other space occupied by a crew member on a regular basis, must be ventilated by a power ventilation system unless a natural system will provide adequate ventilation, in all

ordinary weather conditions, to the satisfaction of the OCMI.

(f) An enclosed passenger accommodation space must be ventilated by a power ventilation system unless smoking is prohibited, and it can be shown that a natural system will provide adequate ventilation, in all ordinary weather conditions, to the satisfaction of the OCMI.

(g) An exhaust duct over a frying vat or a grill must be fitted with an automatic damper that will close in event of a fire.

§ 177.610 Ventilation ducts on vessels carrying more than 150 passengers.

(a) A ventilation duct, which for the purposes of this section includes any type of piping, chamber, or conduit used for ventilation, on a vessel carrying more than 150 passengers must meet the requirements of this section.

(b) A ventilation duct, and materials incidental to its installation, must be made of noncombustible material.

(c) A ventilation duct must not serve more than one main vertical zone; penetrations of main vertical zone bulkheads must be minimized.

(d) A ventilation duct penetrating an A-Class or B-Class fire control boundary must meet the following requirements:

(1) A ventilation duct must meet the same requirements relative to the passage of smoke and flame as the fire control boundary penetrated;

(2) A steel duct penetrating an A-Class fire control boundary must be of at least 11 USSG, and a steel duct penetrating a B-Class bulkhead or deck must be of at least 16 USSG;

(3) A duct which is not steel must be fitted with a steel sleeve at each A-Class or B-Class fire control boundary penetrated. The sleeves must extend at least 18 inches on each side of the penetration and be of the same thickness required for steel ducts;

(4) A duct penetrating a main vertical zone bulkhead must be fitted with a fire damper at the main vertical zone bulkhead;

(5) A duct penetrating an A-Class fire control boundary and opening into a space formed by that boundary must be equipped with a fire damper;

(6) Except for a main vertical zone bulkhead, a steel duct penetrating an A-Class fire control boundary with no opening into the space formed by the boundary need not be fitted with a fire damper provided the duct is at least 11 USSG throughout that space; and

(7) A duct penetrating an insulated fire control boundary must be fitted with insulation of the same type and thickness as the boundary penetrated for a distance of at least 12 inches on the insulated side of the boundary. A fire damper blade need not be insulated.

(e) Fire dampers, where required by this section, must comply with the following requirements:

(1) A fire damper and casing must be at least 11 USSG and have a gap of not more than ⅛ inch between the blade and casing;

(2) A fire damper must close against the draft in the duct and be accessible for periodic inspection by means of a hinged or bolted plate in the duct;

(3) Fire damper springs, blades, and hinges must be of stainless steel construction or of steel suitably coated to prevent corrosion; and

(4) Fire dampers must be capable of manual operation from outside the space served, be fitted with an indicator showing whether the damper is open or closed, and be marked with red letters of at least ½ inch in height stating "VENTILATION FIRE DAMPER."

(f) A ventilation duct serving a stairtower must not serve another space.

(g) A stairway or a stairtower must not serve as an air return for another space.

(h) Except as allowed by § 177.436(d)(4), a duct or other opening in a bulkhead or ceiling designed for the passage of air from an accommodation space to a passageway is prohibited.

§ 177.620 Ventilation of machinery and fuel tank spaces.

Ventilation systems for spaces containing gasoline or diesel machinery or fuel tanks must comply with the requirements of Part 182 of this subchapter in addition to the requirements of this subpart.

Subpart G—Crew Accommodations

§ 177.700 When required.

Overnight accommodations for crew members must be provided in compliance with this part on a vessel which is authorized to operate more than 12 hours in a 24 hour period without a crew change, and on all other vessels with crew members living on board.

§ 177.710 Location.

The deck above a crew accommodation space must not be located below the deepest load waterline.

§ 177.720 Arrangement.

A crew accommodation space must be of sufficient size, adequate construction, and with suitable equipment to provide for the protection and accommodation of the crew in a manner practicable for the size, facilities, and service of the vessel.

§ 177.730 Crew accommodations on vessels of more than 65 feet in length with overnight accommodations for more than 49 passengers.

A crew accommodation space on a vessel of more than 65 feet in length with overnight accommodations for more than 49 passengers must comply with §§ 72.20–10 (a), (b), (d), and (e); 72.20–15; 72.20–20(c)(1); 72.20–25 (a) and (d); 72.20–30; 72.20–35; 72.20–45; 72.20–50; and 72.20–55 of this chapter.

Subpart H—Passenger Accommodations

§ 177.800 General requirements.

(a) The height of ceilings in a passenger accommodation space, including aisles and passageways, must be at least 74 inches, but may be reduced at the sides of a space to allow for camber, wiring, ventilation ducts, and piping.

(b) A passenger accommodation space must be maintained to minimize fire and safety hazards and to preserve sanitary conditions. Aisles must be kept clear of obstructions.

(c) Covered metal trash containers must be provided in passenger accommodation spaces.

(d) A passenger accommodation space must not contain:

(1) Electrical equipment, high temperature parts, pipelines, rotating assemblies, or any other item which could injure a passenger, unless such an item is adequately shielded or isolated; and

(2) An operating control unless the operating control is so protected and located that operation by a crew member will not be impeded by a passenger during normal or emergency operations.

(f) The deck above a passenger accommodation space must be located above the deepest load waterline.

(g) A variation from a requirement of this subpart may be authorized by the Officer in Charge, Marine Inspection, for an unusual arrangement or design provided there is no significant reduction of space, accessibility, safety, or sanitation.

§ 177.810 Overnight accommodations.

(a) Berths and overnight accommodation spaces must meet the requirements of this section on a vessel authorized to carry passengers in overnight accommodation spaces.

(b) A berth must be provided for each passenger authorized to be carried in overnight accommodation spaces. Each berth must measure at least 74 inches by 24 inches and have at least 24 inches of clear space above.

(c) Berths must not be located more than three high and must be constructed of wood, fiberglass or metal. A berth located more than 60 inches above the deck must be fitted with a suitable aid for access.

(d) The construction and arrangement of berths and other furniture must allow free and unobstructed access to each berth. Each berth must be immediately adjacent to an aisle leading to a means of escape from the accommodation space. An aisle alongside a berth must be at least 24 inches wide. An aisle joining two or more aisles in an overnight accommodation space must be at least 42 inches wide.

§ 177.820 Seating.

(a) A seat must be provided for each passenger permitted in a space for which the fixed seating criterion in § 176.113(b)(3) of this subchapter has been used to determine the number of passengers permitted and for each passenger on a dynamically supported craft.

(b) A seat must be constructed to minimize the possibility of injury and avoid trapping occupants.

(c) Installation of seats must provide for ready escape.

(d) Seats, including fixed, temporary, or portable seats, must be installed as follows:

(1) An aisle of not more than 15 feet in length must be not less than 24 inches in width.

(2) An aisle of more than 15 feet in length must be not less than 30 inches in width.

(3) Where seats are in rows, the distance from seat front to seat front must be not less than 30 inches and the seats must be secured to a deck or bulkhead.

(4) Seats used to determine the number of passengers permitted, in accordance with § 176.113(b)(3) of this subchapter, must be secured to the deck, bulkhead, or bulwark by permanent or temporary means.

(e) A seat on a dynamically supported craft must be designed, constructed, and arranged as follows:

(1) A seat must not have any hard edges or dangerous projections;

(2) An adjustable, folding, or rotatable seat, if installed, must be provided with a locking mechanism which must lock automatically in either the stowed or ready position when the control is released;

(3) A seat must not move or distort under normal service conditions but may distort under abnormal loads, in which case the risk of injury to occupants or persons thrown against them must be minimized; and

(4) A seat facing another or on a row end must be fitted with a safety belt unless it is demonstrated to the satisfaction of the cognizant Officer in Charge, Marine Inspection, that it is unnecessary. The OCMI may require other seats to be equipped with safety belts if considered necessary due to possible rapid acceleration and deceleration of the vessel.

§ 177.840 Washrooms and toilets.

(a) *When required.* A vessel, except a vessel on a run of not more than 30 minutes, must be provided with toilets and wash basins as required by this section.

(b) *Vessels authorized to carry not more than 49 passengers.* At least one toilet must be installed in a space separate from other spaces.

(c) *Vessels authorized to carry more than 49 passengers.* One toilet for every 50 passengers permitted to be carried, but not less than two toilets, must be provided. Toilets must be in separate spaces for men and women. One wash basin must be provided in or immediately adjacent to each toilet space.

(d) *Installation.* Toilets and wash basins must be fitted with fixed plumbing, except that on a vessel of not more than 65 feet in length, carrying not more than 49 passengers, a portable toilet, adequately secured to a deck or bulkhead, is acceptable.

Subpart I—Rails and Guards

§ 177.900 Deck rails.

(a) Except as otherwise provided in this section, rails or equivalent protection must be installed near the periphery of all decks of a vessel accessible to passengers and crew. The rails must be capable of withstanding the cumulative load of all persons who may rely on them for support. Equivalent protection to rails may include lifelines, wire rope, chains, and bulwarks, which provide strength and support equivalent to fixed rails. Deck rails must include a top rail of a minimum height and lower courses or equivalent protection as required by this section.

(b) Where space limitations make deck rails impractical for areas designed for crew use only, such as at narrow catwalks in way of deckhouse sides, hand grabs may be substituted.

(c) The height of top rails required by paragraph (a) of this section must be as follows:

(1) Rails on passenger decks of a ferry and of a vessel engaged in excursion trips, including but not limited to sightseeing trips, dinner and party cruises, and overnight cruises, must be at least 39½ inches high.

(2) Rails on a vessel subject to the 1966 International Convention on Loadlines must be at least 39½ inches high.

(3) Rails, other than those noted in paragraphs (c) (1) and (2) of this section, must be at least 36 inches high.

(4) A temporary rail of at least 30 inches high may be installed in way of a fixed seat used for fishing, if the seat is equipped with a restraining device such as a seat belt, where it can be shown that a higher rail would interfere with a person fishing from the fixed seat. A rail complying with the requirements of paragraphs (c) (1), (2), and (3) of this section as applicable, must be reinstalled when the fixed fishing seat is not in use.

(d) Where the principal business of the vessel requires the discharge of persons or cargo in a seaway, such as on pilot boats and dive boats, the OCMI may accept alternatives to the rails required in paragraphs (c) (1), (2), and (3) of this section for those areas of a deck where passengers or cargo are discharged and for which removable rails, lifelines, or chains would hinder discharge operations.

(e) Sailing vessels, open boats, and other vessels not specifically covered elsewhere in this section, must have rails of a minimum height or equivalent protection as considered necessary by the Officer in Charge, Marine Inspection, based on the vessel's operation, route, and seating arrangement.

(f) Rails or lifelines must be permanently supported by stanchions at intervals of not more than 7 feet. Stanchions must be bolted through or welded to the deck.

(g) The space below a top rail around the periphery of a deck, required by paragraph (a) of this section, must be provided with guards as required by this paragraph.

(1) On passenger decks of a ferry or of a vessel on an excursion trip the following must be installed:

(i) Bulwarks;

(ii) Chain link fencing or wire mesh which has links or mesh of not more than 4 inches in diameter; or

(iii) Bars, slats, rail courses, or an equivalent spaced at intervals of not more than 4 inches.

(2) On a vessel subject to the 1966 International Convention on Loadlines, rail courses, or an equivalent, must be installed so that there is not an open space higher than 9 inches from the deck to the first rail course or equivalent.

(3) Except where otherwise required by paragraphs (g)(1) and (g)(2) of this section, rail courses or an equivalent must be installed between the required top rail and the deck so that no open space exists which is more than 12 inches high.

(h) Rails required by paragraph (a) of this section must be permanently installed except that the following rails may be removable:

(1) Rails in way of embarkation stations and boarding locations;

(2) Rails over 30 inches high in way of fishing seats addressed by paragraph (c)(4) of this section; and

(3) Rails on a vessel when the service of the vessel is routinely changed, as determined by the OCMI, and the required top rail height varies depending on the service of the vessel at a particular time.

§ 177.920 Storm rails.

Suitable storm rails or hand grabs must be installed where necessary in passageways, at deckhouse sides, and at ladders and hatches.

§ 177.940 Guards in vehicle spaces.

On a vessel authorized to carry a vehicle, suitable chains, cables, or other barriers must be installed at the end of vehicle runways. In addition, temporary rails or equivalent protection must be installed in way of vehicle ramps, in compliance with § 177.900 of this part, when the vessel is underway.

§ 177.960 Guards for exposed hazards.

An exposed hazard, such as gears or rotating machinery, must be properly protected by a cover, guard, or rail.

§ 177.970 Piping protection.

Piping, including valves, pipe fittings and flanges, conveying vapor, gas, or liquid, the temperature of which exceeds 150 °F, must be suitably insulated where necessary to prevent injuries.

Subpart J—Window Construction and Visibility

§ 177.1010 Safety glazing materials.

Glass and other glazing material used in windows must be of material which will not break into dangerous fragments if fractured.

§ 177.1020 Strength.

Windows, port holes, and their means of attaching to the hull or deck house, must be capable of withstanding the maximum load from wave and wind conditions they are expected to encounter due to their location on the vessel and the authorized route of the vessel.

§ 177.1030 Operating station visibility.

(a) Windows and other openings at the operating station must be of sufficient size and properly located to provide an adequate view for safe navigation in all operating conditions.

(b) Glass or other glazing material used in windows at the operating station must have a light transmission of not less than 70 percent according to Test 2 of ANSI Z26.1, "Safety Glazing Materials for Glazing Motor Vehicles Operating on Land Highways," and must comply with Test 15 of ANSI Z26.1 for Class I Optical Deviation.

Subpart K—Operating Station Arrangement in Dynamically Supported Craft (DSC)

§ 177.1110 DSC operating station visibility.

The operating station of a dynamically supported craft must be equipped to ensure a sufficient number of windows are kept clear so that the crew has adequate visibility to operate the vessel in all expected operating conditions including icing conditions. A single mechanical failure must not reduce visibility to the extent that the craft cannot be safely brought to rest. The cognizant Officer in Charge, Marine Inspection, may require a demonstration that adequate visibility is available and can be maintained for the proper operation of the vessel.

§ 177.1112 Seat design and arrangement.

(a) The design and arrangement of the operating station on a DSC, and the relative positions of the primary and emergency controls and seats, must be such that each operating crew member, with the crew member seated and any adjustable controls suitably adjusted, may:

(1) Without interference, produce full and unrestricted movement of each control which he is responsible for operating, both separately and with all practical combinations of movement of other controls; and

(2) At all control positions exert adequate control forces for the operation to be performed.

(b) Once adjusted for the occupant, a seat in an operating station of a DSC must not require further adjustment for the occupant to reach any control needed for normal or emergency condition.

(c) A seat from which a DSC may be operated must be provided with a safety belt, unless it is demonstrated to the satisfaction of the OCMI that it is unnecessary.

§ 177.1114 Instruments.

(a) The crew must be able to view instruments necessary for the safe operation of a DSC with minimum effort from their seated position during all expected operating conditions.

(b) Instruments essential for the safe operation of the craft must be clearly marked with operational limits and the range of normal operation.

§ 177.1116 Lighting.

The lighting of an operating station on a DSC must be arranged to ensure:

(a) A general intensity of illumination under normal conditions which allows the efficient performance of duties;

(b) That instruments and controls are adequately illuminated in the event of the loss of normal lighting so that the vessel may be safely navigated; and

(c) That there are no reflections on window glass.

PART 178—INTACT STABILITY AND SEAWORTHINESS

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Sec.

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178.125 Stability standards for dynamically supported craft.

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178.210 Stability information.
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178.510 Fixed ballast.

Authority: 46 U.S.C. 2104, 3306; 49 CFR 1.46.

Subpart A—General Provisions

§ 178.115 Applicability to existing vessels.

An existing vessel must comply with the regulations in this part or with the intact stability and seaworthiness regulations that were applicable to the vessel on [insert date of the day before the effective date of the regulations].

§ 178 125 Stability standards for dynamically supported craft.

(a) A dynamically supported craft must meet the stability requirements of this part and Part 179 of this subchapter, applicable to the vessel based on the route, length, number of decks, and number of passengers permitted to be carried, while operating in the displacement mode.

(b) The stability of a DSC while operating in the dynamically supported mode will be approved by the Commandant on an individual basis with due regard for the route and service of the vessel. A DSC may be designed to meet stability standards for DSC published by the U.S. Navy, recognized classification societies, governments, or other standard setting organizations, upon specific approval of the Commandant.

(c) The stability of a DSC in the dynamically supported mode of operation may be evaluated by the Commandant based on service trials and calculations, the type and extent of which must be acceptable to the Commandant. When required by the cognizant OCMI, the owner of a DSC shall submit to the OCMI, or directly to the Commandant when authorized by the OCMI, a written proposal for evaluating the stability of the DSC in the dynamically supported mode of operation. The proposal must address any unusual features of the design of the DSC considering all pertinent factors which may affect the design and operation of the vessel, including, but not limited to: The speed of the craft, the worst expected sea state and winds to be encountered, movement of passengers, loss of lift, changes in consumables, guidance for the master, and the effect of speed on the ability to survive damage after a collision.

Subpart B—Stability Instructions for Operating Personnel

§ 178.210 Stability information.

(a) A stability booklet, stability letter, or stability details indicated on the Certificate of Inspection is required on certain vessels, in accordance with paragraph (b) or (c) of this section, so that the master has sufficient information about loading restrictions and their meaning, stability calculations and their assumptions, and operating guidelines, to ensure compliance with the applicable intact and damage stability regulations of this chapter.

(b) A vessel which, in compliance with § 178.310 of this part, meets the appropriate requirements of Subchapter S of this chapter, must have an approved stability booklet, a stability letter issued by the OCMI or the Commanding Officer, U.S. Coast Guard Marine Safety Center, or stability details on the vessel's Certificate of Inspection. The form in which the stability information must be contained, that is, a stability booklet, a stability letter, or stability details on the Certificate of Inspection, will be as determined by the Commanding Officer, U.S. Coast Guard Marine Safety Center.

(c) The OCMI may place stability details on the Certificate of Inspection of a vessel of not more than 65 feet in length, which, in compliance with § 178.310 of this part, meets the applicable requirements of § 178.320 of this part, when the OCMI determines specific stability restrictions are necessary for the safe operation of the vessel.

§ 178.220 Stability booklet.

When the Commanding Officer, U.S. Coast Guard Marine Safety Center, determines, in accordance with § 178.210(b) of this subpart, that a vessel must have a stability booklet, the booklet must be prepared in accordance with § 170.110 of this chapter, and submitted through the OCMI for approval by the Commanding Officer, U.S. Coast Guard Marine Safety Center.

§ 178.230 Stability letter or Certificate of Inspection stability details.

When the OCMI or the Commanding Officer, U.S. Coast Guard Marine Safety Center, determines, in accordance with § 178.210 of this subpart, that a vessel must have a stability letter or stability details indicated on it's Certificate of Inspection, the following applicable information, and the necessary calculations used to determined that information, must be submitted to the OCMI for his approval when § 178.210(c) of this subpart is applicable, and for the approval of the Commanding Officer, Marine Safety Center, when § 178.210(b) of this subpart is applicable:

(a) Allowable number of passengers and crew on each deck;

(b) Deepest waterline drafts;

(c) Location of watertight bulkheads and openings in watertight bulkheads;

(d) Explanation of the vessel's subdivision;

(e) Location of openings that must be closed in case of a collision;

(f) Location and amount of fixed ballast;

(g) Location and details of foam flotation material; and

(h) Maximum weight of portable equipment permitted on the vessel including diving equipment.

Subpart C—Intact Stability Standards

§ 178.310 Applicability based on length, passenger capacity, and propulsion.

(a) A vessel of not more than 65 feet in length, except a sailing vessel, must meet the applicable requirements of § 178.320 of this subchapter or of §§ 170.170, 170.173, and 171.050 of Subchapter S of this chapter, if:

(1) Carrying not more than 150 passengers on a domestic voyage;

(2) Carrying not more than 12 passengers on an international voyage; or

(3) It has not more than one deck above the bulkhead deck, exclusive of a pilot house.

(b) The following vessels must meet the appropriate requirements of §§ 170.170, 170.173, 171.050, 171.055, and 171.057 of Subchapter S of this chapter:

(1) A vessel of more than 65 feet in length;

(2) A sailing vessel;

(3) A vessel carrying more than 150 passengers;

(4) A vessel carrying more than 12 passengers on an international voyage; and

(5) A vessel with more than 1 deck above the bulkhead deck exclusive of a pilot house.

§ 178.320 Intact stability requirements for mechanically propelled and nonself-propelled vessels.

(a) A vessel, except a pontoon vessel operating on protected waters, must undergo a simplified stability proof test in accordance with § 178.330 of this subpart in the presence of a Coast Guard marine inspector.

(b) A pontoon vessel operating on protected waters must undergo a simplified stability proof test in accordance with § 178.340 of this subpart in the presence of a Coast Guard marine inspector.

(c) The OCMI may allow the simplified stability proof test in § 178.330 of this part to be dispensed with for a vessel carrying not more than 49 passengers where it can be established that, due to the form, arrangement, construction, number of decks, route, and operating restrictions of the vessel, the vessel's stability can be safely determined without such a test.

(d) A vessel whose stability is questioned by the OCMI must be shown by design calculations to meet the applicable stability criteria of §§ 170.170, 170.173, and 171.050 of this chapter in each condition of loading and operation.

§ 178.330 Simplified stability proof test.

(a) This section contains the procedures for conducting a simplified stability proof test, required by § 178.320(a) of this subpart, and the maximum limits of heel allowed during such a test.

(b) A simplified stability proof test is conducted to determine if a vessel, as built and operated, has a minimum level of initial stability. Failure of the simplified test does not necessarily mean that the vessel lacks stability for the intended route, service, and operating condition, but that calculations or other methods must be used to evaluate the stability of the vessel.

(c) A vessel must be in the conditions specified in this paragraph when a simplified stability proof test is performed.

(1) The construction of the vessel must be complete in all respects.

(2) Ballast, if necessary, must be in compliance with § 178.510 and must be on board and in place.

(3) Fuel and water tanks must be approximately three-quarters full.

(4) A weight equal to the total weight of all passengers, crew, and other loads permitted on the vessel must be onboard and distributed so as to provide normal operating trim and to simulate the vertical center of gravity causing the least stable condition that is likely to occur in service. Unless otherwise specified, weight and vertical center of gravity is assumed to be as follows for a simplified stability proof test:

(i) The weight of one person is considered to be 160 pounds except the weight of one person is considered to be 140 pounds if the vessel always carries women and children, and operates exclusively on protected waters;

(ii) The vertical center for the simulated weight of passengers, crew, and other loads must be at least 2.5 feet above the deck; and

(iii) If the vessel carries passengers on diving excursions, the total weight of diving gear must be included in the test as follows:

(A) The total weight of individual diving gear for each passenger carried is assumed to be 80 pounds, which includes the weight of scuba tanks, harness, regulator, weight belt, wet suit, mask, and other personal diving equipment;

(B) The weight of any air compressors carried; and

(C) Other portable equipment carried.

(5) If a vessel has non-return closures on cockpit scuppers or on weather deck drains, the closures must be kept open during the test.

(d) A vessel must not exceed the limitations in paragraph (e) of this section, when subjected to the greater of the following heeling moments:

$M_p = (W)(B)/6$; or

$M_w = (P)(A)(H)$

where:

M_p = passenger heeling moment in foot-pounds;

W = the total passenger weight using 160 pounds per passenger, or, if the vessel will always carry women and children and operate exclusively on protected waters, 140 pounds per passenger may be used;.

B = the maximum transverse distance in feet of a deck that is accessible to passengers;

M_w = wind heeling moment in foot-pounds;

P = wind pressure of:

(1) 7.5 pounds/square foot for operation on protected waters;

(2) 10.0 pounds/square foot for operation on partially protected waters; and

(3) 15.0 pounds/square foot for operation on exposed waters.

A = area, in square feet, of the projected lateral surface of the vessel above the waterline (including each projected area of the hull, superstructure and area bounded by railings and structural canopies).

H = height, in feet, to the center of area (A) above the waterline, measured up from the waterline.

(e) A vessel must not exceed the following limits of heel when doing the simplified stability proof test:

(1) On a flush deck or well deck vessel, not more than one-half of the freeboard may be immersed, except that, on a well deck vessel that operates on protected waters and has non-return scuppers or deck drains, the full freeboard may be immersed if the full freeboard is not more than one-quarter of the distance from the waterline to the gunwale.

(2) On a cockpit vessel, the maximum allowable immersion is calculated from the following equation:

(i) On exposed waters—

$i = f(2L - 1.5L')/4L$

(ii) On protected or partially protected waters—

$i = f(2L - L')/4L$

where:

i = maximum allowable immersion in feet;

f = freeboard in feet;

L = length of the weather deck, in feet; and

L' = length of cockpit in feet.

(3) On an open boat, not more than one-quarter of the freeboard may be immersed.

(4) In no case may the angle of heel exceed 14 degrees.

(f) The limits of heel must be measured at:

(1) The point of minimum freeboard; or

(2) At a point three-quarters of the vessel's length from the bow if the point of minimum freeboard is aft of this point.

(g) When demonstrating compliance with paragraph (e) of this section, the freeboard must be measured as follows:

(1) For a flush deck or well deck vessel, the freeboard must be measured to the top of the weatherdeck at the side of the vessel; and

(2) For a cockpit vessel or for an open boat, the freeboard must be measured to the top of the gunwale.

(h) A ferry must also be tested in a manner acceptable to the OCMI to determine whether the trim or heel during loading or unloading will submerge the deck edge. A ferry passes this test if the deck edge is not submerged during loading or unloading of the vessel with the total number of passengers and the maximum vehicle weight permitted.

§ 178.340 Stability standards for pontoon vessels on protected waters.

(a) This section contains design limits and the procedures for conducting a simplified stability proof test, required by § 178.320(b) of this subpart, for a pontoon vessel of not more than 65 feet in length operating on protected waters.

(b) A simplified stability proof test is conducted to verify if a vessel, as built and operated, has a minimum level of initial stability. Failure of the simplified test does not necessarily mean that the vessel lacks stability for the intended route, service, and operating condition, but that calculations or other methods must be used to evaluate the stability of the vessel.

(c) The portion of the deck accessible to passengers on a pontoon vessel must not extend beyond the outboard edge of either pontoon.

(d) A pontoon vessel that has more than 2 pontoons or has decks higher than 6 inches above the pontoons must meet a stability standard acceptable to the Commanding Officer, U.S. Coast Guard Marine Safety Center.

(e) A pontoon vessel must be in the condition described in § 178.330(c) of this subpart when the simplified stability proof test is performed, except that the simulated load of passengers, crew, and other weights is initially centered on the vessel so that there is no trim and heel is minimized.

(f) A pontoon vessel has the minimum acceptable level of initial stability if it meets the following:

(1) With the simulated load located at the extreme outboard position of the deck on the side with the least initial freeboard, the remaining exposed cross-

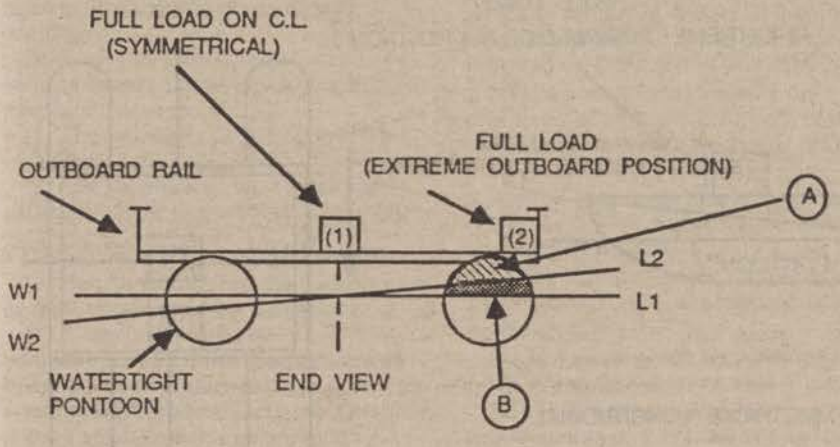
sectional area of the pontoon on that side must be equal to or greater than the cross-sectional area submerged due to the load shift, as indicated in figure 178.340(f)(1); and

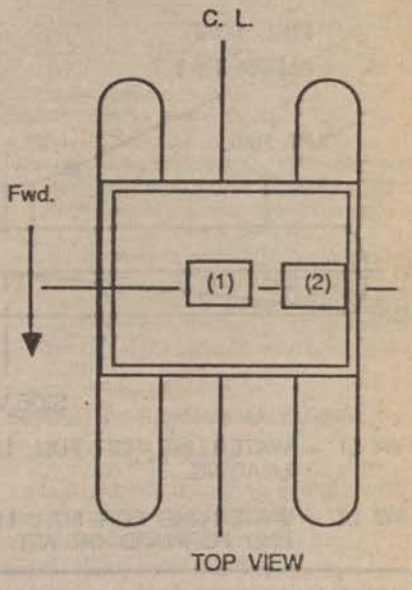
(2) With the simulated load located on the centerline at the extreme fore or aft end of the deck, whichever position is further from the initial position of the load, the top of the pontoon must not be submerged at any location, as indicated in figure 178.340(f)(2).

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FIGURE 178.340(f)(1)

TRANSVERSE STABILITY STANDARD





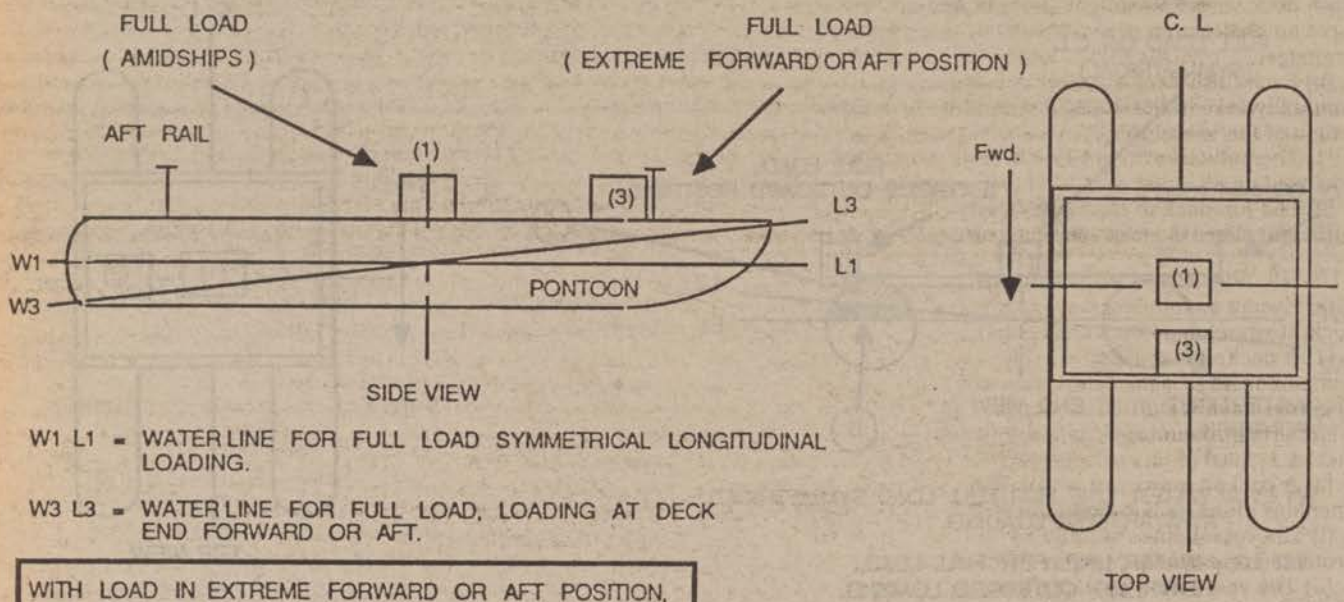
W1 L1 = WATER LINE FOR FULL LOAD SYMMETRICAL, ATHWARTSHIP LOADING.

W2 L2 = WATER LINE FOR FULL LOAD, EXTREME OUTBOARD LOADING.

WITH LOAD IN EXTREME OUTBOARD POSITION, POSITION (2), AREA (A) MUST BE EQUAL TO OR GREATER THAN AREA (B).

FIGURE 178.340(f)(2)

LONGITUDINAL STABILITY STANDARD



W1 L1 = WATER LINE FOR FULL LOAD SYMMETRICAL LONGITUDINAL LOADING.

W3 L3 = WATER LINE FOR FULL LOAD, LOADING AT DECK END FORWARD OR AFT.

WITH LOAD IN EXTREME FORWARD OR AFT POSITION, TOP OF PONTOON MUST NOT BE SUBMERGED.

BILLING CODE 4910-14-C

Subpart D—Drainage of Weather Decks

§ 178.410 Drainage of flush deck vessels.

(a) Except as provided in paragraph (b) of this section, the weather deck on a flush deck vessel must be watertight and have no obstruction of overboard drainage.

(b) Each flush deck vessel may have solid bulwarks in the forward one-third length of the vessel if:

(1) The bulwarks do not form a well enclosed on all sides; and

(2) The foredeck of the vessel has sufficient sheer to ensure drainage aft.

§ 178.420 Drainage of cockpit vessels.

(a) Except as follows, the cockpit on a cockpit vessel must be watertight:

(1) A cockpit may have companionways if the companionway openings have watertight doors, or weathertight doors and coamings which meet § 179.360 of this subchapter.

(2) A cockpit may have ventilation openings along its inner periphery if:

(i) The vessel operates only on protected or partially protected waters;

(ii) The ventilation openings are located as high as possible in the side of the cockpit; and

(iii) The height of the ventilation openings are not more than 2 inches.

(b) The cockpit deck of a cockpit vessel that operates on exposed or partially protected waters must be at least 10 inches above the deepest load waterline unless the vessel complies with:

(1) The intact stability requirements of §§ 171.070, 170.073, 171.050, 171.055, and 171.057 of this chapter;

(2) The Type II subdivision requirements in § 171.070 of this chapter; and

(3) The damage stability requirements in § 171.080 of this chapter.

(c) The cockpit deck of a cockpit vessel that does not operate on exposed or partially protected waters must be located as high above the deepest load waterline as practicable.

(d) Scuppers or freeing ports for the cockpit deck of a cockpit vessel must:

(1) Be located to allow rapid clearing of water in all probable conditions of list and trim;

(2) Have a combined drainage area of at least the area required by § 178.450 of this subpart; and

(3) If the deck is less than 10 inches above the deepest load waterline of the vessel, be fitted with non-return closures.

§ 178.430 Drainage of well deck vessels.

(a) The weather deck on a well deck vessel must be watertight.

(b) Except as provided in paragraph (c) of this section, the area required on a well deck vessel for drainage of the well formed by the bulwarks must be determined as required by this paragraph.

(1) If a vessel operates on exposed or partially protected waters, it must have at least 100 percent of the drainage area required by § 178.450 of this subpart.

(2) If a vessel operates only on protected or partially protected waters, it need only have 50 percent of drainage area required by § 178.450 of this subpart if the vessel meets the following requirements for a vessel that operates on exposed waters:

(i) The intact stability requirements of §§ 170.070, 170.073, 171.050 and 171.055 of this chapter;

(ii) The subdivision requirements of § 171.070 of this chapter; and

(iii) The damage stability requirements of § 171.080 of this chapter.

(3) If a vessel operates only on protected waters, the freeing port area must be at least equal to the scupper area required by § 178.450 for a cockpit of the same size as the well.

(c) The freeing ports on a well deck vessel must be located to allow rapid clearing of water in all probable conditions of list and trim.

(d) The deck of a welldeck vessel that operates on exposed or partially protected waters must be at least 10 inches above the deepest load waterline unless the vessel complies with:

(1) The intact stability requirements of §§ 170.070, 170.073, 171.050, 171.055, and 171.057 of this chapter;

(2) The Type II subdivision requirements in § 171.070 of this chapter; and

(3) The damage stability requirements in § 171.080 of this chapter.

§ 178.440 Drainage of open boats.

The deck within the hull of an open boat must drain to the bilge. Overboard drainage of the deck is not permitted.

§ 178.450 Calculation of drainage area.

The drainage area required on a vessel must be computed using the following formula:

Required drainage area in inch^2 = Volume Factor × Effective Deck Area

where:

Volume Factor

= 0.1 for a cockpit vessel operating on protected and partially protected waters having drainage openings fitted with non-return closures, and

= $0.8b^2/(b+f-K)$ but no less than 0.1 for a cockpit vessel operating on exposed waters and all other vessels regardless of their route, where:

b = average height in feet of the bulwark above the deck as determined in accordance with § 178.330(g);

f = height of the freeboard above the deepest waterline in feet; and

K = 3.0 feet for vessels operating on exposed waters;
2.0 feet for vessels operating on partially protected waters; and
1.0 feet of vessels operating on protected waters; and

Effective Deck Area = D–H

where:

D = total deck area of the cockpit or well deck measured in feet^2, including the deck area of the superstructure; and

H = any area of weathertight superstructure within the cockpit or well deck area measured in feet^2 which extends vertically at least as high as the deck in which the cockpit is located or the top of the bulwark which forms the well.

Subpart E—Special Installations

§ 178.510 Fixed ballast.

(1) Any ballast used to comply with the requirements of Parts 170, 171, 178, and 179 of this chapter must be:

(1) Of the solid fixed type;

(2) Stowed in a manner that prevents shifting of the ballast; and

(3) Installed to the satisfaction of the OCMI.

(b) Solid fixed ballast may not be located forward of the collision bulkhead unless the installation and arrangement of the ballast and the collision bulkhead minimizes the risk of the ballast penetrating the bulkhead in a collision.

(c) Ballast may not be removed from a vessel or relocated unless approved by the OCMI except that ballast may be temporarily moved for a vessel examination or repair if it is replaced to the satisfaction of the OCMI.

PART 179—SUBDIVISION, DAMAGE STABILITY AND WATERTIGHT INTEGRITY REQUIREMENTS

Subpart A—General Provisions

Sec.

179.115 Applicability to existing vessel.

Subpart B—Subdivision and Damage Stability Requirements

179.210 Collision bulkhead.

179.212 Watertight bulkheads for subdivision.

179.220 Location of watertight bulkheads for subdivision.

179.230 Damage stability requirements.

179.240 Foam flotation material.

Subpart C—Watertight Integrity Requirements

179.310 Collision bulkheads.

179.320 Watertight bulkheads.

179.330 Watertight doors.

179.340 Trunks.

179.350 Openings in the side of a vessel below the bulkhead or weather deck.
179.360 Watertight integrity.

Subpart D—Special Requirements for Vessels on International Voyages

179.400 Bulkhead spacing and required double bottoms.

Authority: 46 U.S.C. 2104, 3306; 49 CFR 1.46.

Subpart A—General Provisions

§ 179.115 Applicability to existing vessel.

An existing vessel must comply with the regulations in this part or with the subdivision, damage stability, and watertight integrity regulations that were applicable to the vessel [insert date of the day before the effective date of regulations].

Subpart B—Subdivision and Damage Stability Requirements

§ 179.210 Collision bulkhead.

(a) A vessel of more than 65 feet in length must have a collision bulkhead.

(b) A vessel of not more than 65 feet in length must have a collision bulkhead if:

(1) Carrying more than 49 passengers;

(2) Operating on an oceans route;

(3) Operating on exposed waters on a coastwise route; or

(4) Of more than 40 feet in length and operating on a coastwise route.

(c) A double-ended ferry required to have a collision bulkhead must have a collision bulkhead at each end of the vessel.

§ 179.212 Watertight bulkheads for subdivision.

(a) A vessel of not more than 65 feet in length, carrying more than 49 passengers and not more than 150 passengers, must comply with § 179.220 of this subpart. If the vessel is designed to comply with the appropriate intact stability requirements of §§ 170.170, 170.173, 171.050 and 171.055 of this chapter, the vessel must comply with the requirements of §§ 171.070 through 171.073 of this chapter for Type II subdivision instead of § 179.220.

(b) A vessel of more than 65 feet in length or carrying more than 150 passsengers must comply with the requirements of §§ 171.070 through 171.073 of this chapter for Type II subdivision.

(c) A vessel that carries more than 12 passengers on an international voyage must meet the requirements of §§ 171.070 through 171.073 of this chapter for Type II subdivision.

§ 179.220 Location of watertight bulkheads for subdivision.

(a) The maximum distance between adjacent main transverse watertight bulkheads on a vessel, required by § 179.212(a) of this subpart to comply with this section, must not be more than the smaller of the following:

(1) One-third of the length of the bulkhead deck; or

(2) The distance given by the following equation:

$$l = (F)(f)(L)/D$$

where:

l = the maximum length of the bulkhead deck in feet between adjacent main transverse watertight bulkheads;

f = the effective freeboard in feet calculated for each pair of adjacent bulkheads in accordance with paragraph (b) of this section;

L = length in feet;

F = the floodable length factor from Table 179.220.

D = the depth in feet, measured amidships at a point one-quarter of the maximum beam out from the centerline, from the inside of the bottom planking or plating to the level of the top of the bulkhead deck at side as shown in Figure 179.220(a).

(b) The effective freeboard for each compartment is calculated by the following equation:

$$f = (a + b)/2$$

where:

f = the effective freeboard in feet.

a = the freeboard in feet measured:

(1) at the forward main transverse watertight bulkhead; and

(2) from the deepest waterline to:

(i) the top of the bulkhead deck on a flush deck vessel; or

(ii) if a vessel has a stepped bulkhead deck, the line shown in Figure 179.220(b); or

(iii) if a vessel has an opening port light below the bulkhead deck, the line shown in Figure 179.220(c).

b = the freeboard in feet measured:

(1) at the aft main transverse watertight bulkhead; and

(2) from the deepest waterline to:

(i) the top of the bulkhead deck on a flush deck vessel; or

(ii) if a vessel has stepped bulkhead deck, the line shown in Figure 179.220(b); or

(iii) if a vessel has an opening port light below the bulkhead deck, the line shown in Figure 179.220(c).

TABLE 179.220—TABLE OF FLOODABLE LENGTH FACTORS

(d/L) × 100	F
0 to 15	0.33
20	.34
25	.36
30	.38
35	.43
40	.48
45	.54
50	.61
55	.63
60	.58
65	.53
70	.48
75	.44
80	.40
85	.37
90 to 100	.34

(1) Where:

d = distance in feet from the midpoint of the compartment to the forwardmost point on the bulkhead deck excluding sheer; and

L = length in feet measured over the bulkhead deck; and (2) Intermediate values of floodable length factor may be obtained by interpolation.

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Figure 179.220(a)

Transverse Location for Measuring Depth (D)

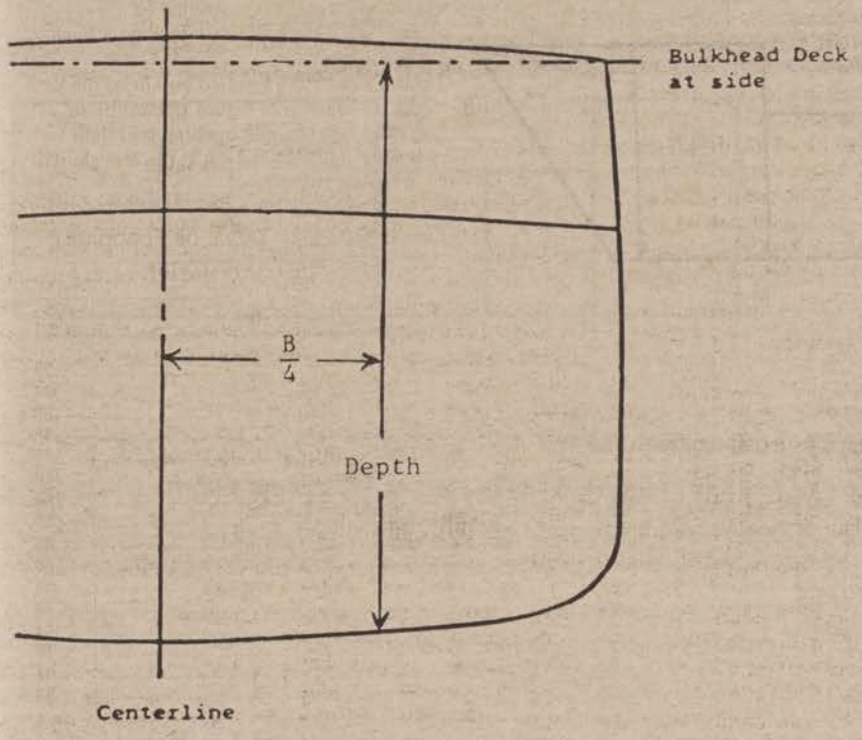
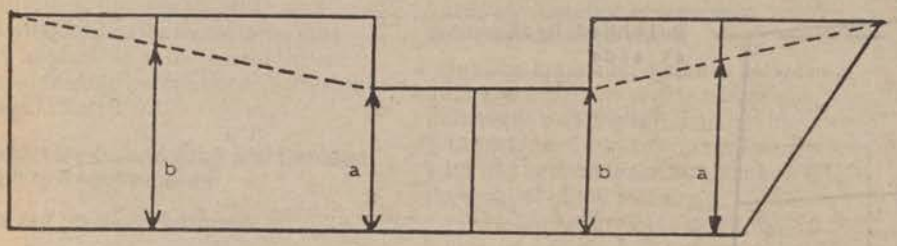


Figure 179.220(b)

Freeboard Measurement-

Vessel with a Stepped Bulkhead Deck



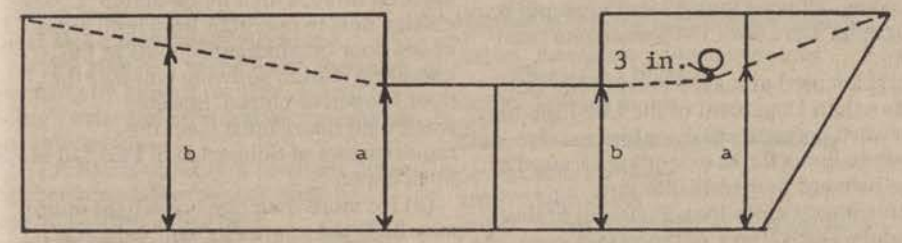
(a and b shown for two sample compartments)

Figure 179.220(c)

Freeboard Measurement-

Vessel with a Stepped Bulkhead Deck and

a Port Light Below the Bulkhead Deck



(a and b shown for two sample compartments)

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§ 179.230 Damage stability requirements.

A vessel which, in accordance with § 179.212 of this subpart, must meet the requirements of §§ 171.070 through 171.073 of this chapter for Type II subdivision must meet the damage stability requirements of § 171.080 of this chapter.

§ 179.240 Foam flotation material.

(a) Foam may only be installed as flotation material on a vessel of not more than 65 feet in length, carrying not more than 150 passengers, when approved by the OCMI.

(b) If foam is installed as flotation material on a vessel, the owner shall ensure that the following tests are conducted and requirements are met, to the satisfaction of the OCMI:

(1) All foam must comply with MIL–P–21929B including the requirements for fire resistance;

(2) Foam may be installed only in void spaces that are free of ignition sources, unless the foam complies with the requirements of 33 CFR 183.114;

(3) Foam may be installed adjacent to fuel tanks only if the boundary between the tank and the space has double continuous fillet welds;

(4) The structure enclosing the foam must be strong enough to accommodate the buoyancy of the foam;

(5) Piping and cables must not pass through foamed spaces unless they are within piping and cable ways accessible from both ends;

(6) Blocked foam must:

(i) Be used in each area that may be exposed to water; and

(ii) Have a protective cover, approved by the OCMI, to protect it from damage;

(7) A water submergence test must be conducted on the foam for a period of at least 7 days to demonstrate to the satisfaction of the OCMI that the foam has adequate strength to withstand a hydrostatic head equivalent to that which would be imposed if the vessel were submerged to its bulkhead deck.

(8) The effective buoyancy of the foam must be determined at the end of the submergence test required by paragraph (b)(7) of this section. The effective buoyancy or 55 pounds per cubic foot, whichever is less, must be used in determining the location of watertight bulkheads for subdivision required by § 179.212 of this part; and

(9) The owner must obtain sample foam specimens during installation of the foam and determine the density of the installed foam.

Subpart C—Watertight Integrity Requirements

§ 179.310 Collision bulkheads.

(a) Each collision bulkhead required by § 179.210 of this part, must be constructed in accordance with § 179.320 of this subpart, except that a collision bulkhead:

(1) Must extend to the deck above the bulkhead deck for service on other than protected or partially protected waters, and

(2) Must not be fitted with any type of penetration or opening except as allowed elsewhere in this subchapter.

(b) The forward collision bulkhead on a vessel of more than 65 feet in length or carrying more than 150 passengers must be:

(1) Located at least 5 percent but not more than 15 percent of the LBP from the forward perpendicular, or for vessels with bulbous bows extending forward of the forward perpendicular and contributing more than 2 percent of the underwater volume of the vessel, located at least 5 percent but not more than 15 percent of the LBP from the mid-length of such extension; and

(2) Installed in a single plane, with no recess or step, up to the bulkhead deck;

(c) The after collision bulkhead on a double-ended ferry of more than 65 feet in length or carrying more than 150 passengers must be:

(1) At least 5 percent but not more than 15 percent of the LBP from the after perpendicular; and

(2) Installed in a single plane, with no recess or step, at least up to the bulkhead deck.

§ 179.320 Watertight bulkheads.

(a) Each watertight bulkhead must be of sufficient strength to be capable of remaining watertight with a head of water to the top of the bulkhead.

(b) Each watertight bulkhead must extend to the bulkhead deck and be installed in one plane without steps or recesses insofar as is reasonable and practicable. Any steps or recesses permitted must comply with the applicable subdivision requirements in this subchapter.

(c) The number of penetrations in a watertight bulkhead must be minimized. A penetration in a watertight bulkhead must be as high and as far inboard in the bulkhead as practicable, and made watertight.

(d) Sluice valves are not permitted in watertight bulkheads.

§ 179.330 Watertight doors.

(a) Except as permitted in paragraph (b) of this section, watertight doors are not permitted in bulkheads required by §§ 179.210 or 179.212 of this subpart unless:

(1) The door separates a machinery space from an accommodation space and, in the judgment of the OCMI, the door will be kept closed except when a person is passing through the door, or

(2) The Commandant determines that, due to the arrangements of the vessel, the door will be kept closed except when a person is passing through the door.

(b) Watertight doors are permitted in any bulkhead on a vessel that operates only in the offshore oil industry.

(c) A hinged watertight bulkhead door must be fitted with a quick-action closing device operable from both sides of the door and indicator lights at the operating station showing whether the door is open or closed. Sliding watertight doors must meet the requirements of Subpart H of Part 170 of this chapter.

(d) No more than one watertight door may be fitted in a watertight bulkhead, and it must be located as high and as far inboard as practicable.

§ 179.340 Trunks.

Where trunks are installed, they must comply with the requirements of § 179.360(a)(1) of this part and § 171.113 of this chapter.

§ 179.350 Openings in the side of a vessel below the bulkhead or weather deck.

(a) On a vessel operating on exposed or partially protected waters, an opening port light is not permitted below the weather deck unless the sill of the port light is at least 30 inches above the deepest load waterline.

(b) A port light must have an inside, hinged dead cover regardless of whether the port light is or is not capable of being opened.

(c) Except for engine exhausts, each inlet or discharge pipe that penetrates the hull below a line drawn parallel to and at least 6 inches above the deepest load waterline must have means to prevent water from entering the vessel if the pipe fractures or otherwise fails.

(d) A positive action valve or cock that is located as close as possible to the hull is an acceptable means for complying with paragraph (b) of this section.

(e) If an inlet or discharge pipe is inaccessible, the means for complying with paragraph (b) of this section must be a shut-off valve that is:

(1) Operable from the weather deck or any other accessible location above the bulkhead deck; and

(2) Labeled at the operating point for identity and direction of closing.

(f) Any connecting device or valve in a hull penetration must not be cast iron.

(g) Each plug cock in an inlet or discharge pipe must have a means, other than a cotter pin, to prevent its loosening or removal from the body.

§ 179.360 Watertight integrity.

(a) A hatch exposed to the weather must be watertight, except that the following hatches may be weathertight:

(1) A hatch on a watertight trunk that extends at least 12 inches above the weather deck;

(2) A hatch in a cabin top; and

(3) A hatch on a vessel that operates only on protected waters.

(b) A hatch cover must:

(1) Have securing devices; and

(2) Be attached to the hatch frame or coaming by hinges, captive chains, or other devices of substantial strength to prevent its loss.

(c) A hatch cover that provides access to accommodation spaces must be operable from either side.

(d) Except as provided in paragraph (e) of this section, a weathertight door with permanent watertight coamings that comply with the height requirements in Table 179.360 must be provided for each opening located in a deck house or companionway that:

(1) Gives access into the hull or into an enclosed superstructure; and

(2) Is located in:

(i) A cockpit;

(ii) A well; or

(iii) An exposed location on a flush deck vessel.

(e) If an opening in a location specified in paragraph (d) of this section is provided with a hinged watertight door, the height of the watertight coaming need only be sufficient to accommodate the door.

TABLE 179.360.—HEIGHT OF COAMING VS. ROUTE

Route	Height of coaming
Exposed or partially protected.	6 inches (15.2 centimeters).
Protected	3 inches (7.6 centimeters).

Subpart D—Special Requirements for Vessels on International Voyages

§ 179.400 Bulkhead spacing and required double bottoms.

A vessel on an international voyage, carrying more than 12 passengers must:

(a) Have its main transverse watertight bulkheads separated as required by § 171.070(e)(1) of this chapter; and

(b) Be fitted with double bottoms meeting the requirements of §§ 171.105, 171.106, 171.108 and 171.109 of this chapter.

PART 180—LIFESAVING EQUIPMENT AND ARRANGEMENTS

Subpart A—General Provisions

Sec.

180.10 Applicability to vessels on an international voyage and vessels of more than 65 feet in length with overnight accommodations for more than 49 passengers.
180.15 Applicability to existing vessels.
180.25 Additional requirements.

Subpart B—Emergency Communications

180.64 Emergency position indicating radiobeacons (EPIRB).
180.68 Distress flares.

Subpart C—Life Buoys and Lifejackets

180.70 Ring life buoys.
180.71 Lifejackets.
180.72 Personal flotation devices carried in addition to lifejackets.
180.75 Lifejackets lights.
180.78 Stowage of lifejackets.

Subpart D—Survival Craft Arrangements and Equipment

180.110 Survival craft embarkation ladders.
180.130 Stowage of survival craft.
180.137 Stowage of life floats and buoyant apparatus.
180.150 Survival craft launching appliances.
180.175 Survival craft equipment.

Subpart E—Number and Type of Survival Craft

180.200 Survival craft—general.
180.202 Survival craft—vessels on ocean routes.
180.204 Survival craft—vessels on coastwise and Great Lakes routes.
180.206 Survival craft—vessels on lakes, bays, and sounds routes.
180.208 Survival craft—vessels on river routes.
180.209 Survival craft—dynamically supported craft.
180.210 Rescue boats.

Authority: 46 U.S.C. 2104, 3306; 49 CFR 1.46.

Subpart A—General Provisions

§ 180.10 Applicability to vessels on an international voyage and vessels of more than 65 feet in length with overnight accommodations for more than 49 passengers.

A vessel on an international voyage, and a vessel of more than 65 feet in length with overnight accommodations for more than 49 passengers, must meet the requirements in Subchapter W of this chapter for passenger vessels in the same service, instead of the requirements of this part.

§ 180.15 Applicability to existing vessels.

An existing vessel must comply with the requirements of this part except as otherwise specified by this section.

(a) Before [insert date 5 years after effective date] or 10 years after the vessel's keel was laid or the vessel was at a similar stage of construction, whichever is later, an existing vessel may comply with the requirements in effect for the vessel prior to [insert effective date] for the number and type of survival craft, stowage arrangements, and launching appliances for survival craft.

(b) On or before [insert date 5 years after effective date] or 10 years after the vessel's keel was laid or the vessel was at a similar stage of construction, whichever is later, an existing vessel must:

(1) Be equipped with the number of survival craft required for its route under § 180.202, § 180.204, § 180.206, § 180.208, or § 180.209 of this part, as applicable; and

(2) Comply with the stowage and launching appliance requirements for survival craft in §§ 180.130 through 180.150, inclusive, of this part.

(c) Each inflatable liferaft, inflatable buoyant apparatus, life float, and buoyant apparatus on the vessel on [insert effective date], may be used to meet the requirements of this part for those survival craft as long as the survival craft is continued in use on the vessel, and is in good and serviceable condition.

(d) When any lifesaving equipment on a vessel is replaced or a vessel undergoes repairs, alterations, or modifications of a major character involving replacement of, or any addition to, the existing lifesaving equipment, each new piece of lifesaving equipment must meet this part.

(e) A combination flare and smoke distress signal approved under § 160.023 of this chapter may be used on an existing vessel until the expiration date of the distress signal but no later than [insert 3 years after effective date] as one of the distress signals required by § 180.268 of this part.

(f) Until [insert date 6 years after effective date], a Coast Guard approved 121.5/243 MHz Class A EPIRB may be used to meet the requirement for an EPIRB under § 180.64(a) of this part. Each Class A EPIRB carried under this paragraph must have been installed on the vessel on or before [insert effective date]. Each Class A EPIRB replaced after [insert effective date] must be replaced with an EPIRB meeting § 180.64(a) of this part.

(g) An existing vessel on a coastwise route operating not more than 20 nautical miles from a harbor of safe refuge need not comply with § 180.64 until [insert 6 years after effective date].

(h) An existing vessel need not comply with § 180.78(a)(4) of this part.

(i) An existing vessel must comply with § 180.210 of this part or the regulations for rescue boats that were applicable to the vessel on [insert date of day before effective date of regulations].

§ 180.25 Additional requirements.

(a) Each item of lifesaving equipment carried on board a vessel but not required under this part, must be approved by the Commandant.

(b) The Officer in Charge, Marine Inspection, may require a vessel to carry specialized or additional lifesaving equipment if:

(1) The OCMI determines the conditions of the voyage render the requirements of this part inadequate; or

(2) The vessel is operated in Arctic, Antarctic, or other severe conditions not covered under this part.

Subpart B—Emergency Communications

§ 180.64 Emergency Position Indicating Radiobeacons (EPIRB).

(a) *Oceans and coastwise routes.* A vessel on an oceans or coastwise route must have on board a Federal Communications Commission (FCC) Type Accepted Category 1, float-free, automatically activated, 406 MHz Satellite Emergency Position Indicating Radio Beacon (EPIRB).

(b) *Great Lakes routes.* A vessel on a Great Lakes route, not required to carry an EPIRB under paragraph (a) of this section, must have on board:

(1) A Federal Communications Commission (FCC) Type Accepted Category 1, float-free, automatically activated, 406 MHz Satellite Emergency Position Indicating Radio Beacon (EPIRB); or

(2) A Class C EPIRB installed in a readily accessible location, at or near the operating station.

§ 180.68 Distress flares.

(a) *Oceans and coastwise routes.* A vessel on an oceans or coastwise route must carry either:

(1) Twelve rocket parachute flares approved under Subpart 160.036 of this chapter; or

(2) Six hand red flare distress signals approved under Subpart 160.021 of this chapter, and six hand orange smoke distress signals approved under Subpart 160.037 of this chapter.

(b) *Great Lakes route.* A vessel on a Great Lakes route must carry either:

(1) Twelve rocket parachute flares approved under Subpart 160.036 of this chapter; or

(2) Twelve hand red flare distress signals approved under Subpart 160.021 of this chapter; or

(3) Six hand red flare distress signals approved under Subpart 160.021 of this chapter, and six hand orange smoke distress signals approved under Subpart 160.037 of this chapter.

(c) *Lakes, bays, and sounds, or rivers routes.* A vessel on a lakes, bays, and sounds, or rivers route must carry either:

(1) Six rocket parachute flares approved under Subpart 160.036 of this chapter; or

(2) Six hand red flare distress signals approved under Subpart 160.021 of this chapter; or

(3) Three hand red flare distress signals approved under Subpart 160.021 of this chapter, and three hand orange smoke distress signals approved under Subpart 160.037 of this chapter.

(c) *Exemption: vessels on short runs.* A vessel operating on short runs limited to approximately 30 minutes away from the dock is not required to carry distress flares under this section.

(d) *Stowage.* Each flare carried to meet this section must be stowed in one of the following:

(1) A portable watertight container, which includes a container complying with § 160.021–6 of this chapter, carried at the operating station;

(2) A portable magazine chest secured above the freeboard deck, away from heat, in the vicinity of the operating station. An acceptable magazine chest is described in Subpart 160.038 of this chapter.

Subpart C—Life Buoys and Lifejackets

§ 180.70 Ring life buoys.

(a) A vessel must have one or more ring life buoys as follows:

(1) A vessel of not more than 26 feet in length must carry a minimum of one life buoy of not less than the 20 inch size;

(2) A vessel of more than 26 feet in length, but not more than 65 feet, must carry a minimum of one life buoy of at least the 24 inch size; and

(3) A vessel of more than 65 feet in length must carry a minimum of three life buoys of not less than the 24 inch size.

(b) Each ring life buoy on a vessel must:

(1) Be approved under Subpart 160.050 of this chapter;

(2) Be readily accessible;

(3) Be stowed in a way that it can be rapidly cast loose;

(4) Not be permanently secured in any way; and

(5) If on a vessel on an ocean or coastwise route, be orange in color.

(c) At least one ring life buoy must be fitted with a buoyant lifeline. The lifeline must:

(1) Be of at least 60 feet in length;

(2) Be non-kinking;

(3) Have a diameter of at least $\frac{5}{16}$ of an inch;

(4) Have a breaking strength of at least 1,124 pounds; and

(5) Be of a dark color if synthetic, or of a type certified to be resistant to deterioration from ultraviolet light.

(d) A vessel must carry one floating waterlight, unless it is limited to daytime operation, in which case no floating waterlight is required.

(1) Each floating waterlight must be approved under Subpart 161.010 of this chapter.

(2) Each ring life buoy with a floating waterlight must have a lanyard of at least 3 feet but of not more than 6 feet in length securing the waterlight to the ring life buoy.

§ 180.71 Lifejackets.

(a) An adult lifejacket must be provided for each person permitted on board a vessel.

(b) In addition, a number of child-size lifejackets equal to at least 10% of the number of passengers permitted on board must be provided, or such greater number as necessary to provide a lifejacket for each person being carried that is smaller than the lower size limit of the adult lifejackets provided to meet this section. However, child-size lifejackets are not required if the vessel does not carry persons smaller than the lower size limit of the adult lifejackets.

(c) On dynamically supported craft, a number of lifejackets equal to at least 5% of the total number of persons permitted on board the vessel must be provided in addition to the lifejackets required by paragraph (a) of this section.

(d) Each lifejacket must be approved under either Subpart 160.002, Subpart 160.005, or Subpart 160.055 of this chapter.

§ 180.72 Personal flotation devices carried in addition to lifejackets.

(a) Equipment carried under this section is not acceptable in lieu of any portion of the required number of approved lifejackets and must not be substituted for the approved lifejackets required to be worn during drills and emergencies.

(b) Wearable marine buoyant devices which include "ski vests", "boating vests", and "fishing vests", approved

under Subpart 160.064 of this chapter, may be carried as additional equipment.

(c) Buoyant work vests approved under Subpart 160.053 of this chapter may be carried as additional equipment for use of persons working near or over the water.

(d) Commercial hybrid personal flotation devices (PFD) approved under Subpart 160.077 of this chapter may be carried as additional equipment for use of persons working near or over the water. Each commercial hybrid PFD must be:

(1) Used, stowed, and maintained in accordance with the procedures set out in the manual required for these devices under § 160.077–29 of this chapter and any limitation(s) marked on them; and

(2) Of the same or similar design and have the same method of operation as each other hybrid PFD carried on board.

§ 180.75 Lifejacket lights.

(a) Each lifejacket carried on a vessel on an oceans, coastwise, or Great Lakes route, must have a lifejacket light approved under Subpart 161.012 of this chapter. Each lifejacket light must be securely attached to the front shoulder area of the lifejacket.

(b) Notwithstanding the requirements of paragraph (a) of this section, lifejacket lights are not required for lifejackets on:

(1) Ferries; and

(2) Vessels with Certificates of Inspection endorsed only for routes that do not extend more than 20 miles from a harbor of safe refuge.

§ 180.78 Stowage of lifejackets.

(a) *General.* Unless otherwise stated in this section, lifejackets must be distributed in convenient places throughout accommodation spaces.

(1) Each stowage container for lifejackets must not be capable of being locked. If practicable, the container must be designed to allow the lifejackets to float free.

(2) Each lifejacket kept in a stowage container must be readily available.

(3) Each lifejacket stowed overhead must be supported in a manner which allows quick release for distribution.

(4) If lifejackets are stowed more than 7 feet above the deck, a means for quick release must be provided and must be capable of operation by a person standing on the deck.

(5) Each child-size lifejacket must be stowed in a location which is appropriately marked and separated from adult lifejackets so the child-size lifejackets are not mistaken for adult lifejackets.

(b) *Additional personal flotation devices.* The stowage locations of the personal flotation devices carried in addition to lifejackets under § 180.72 of this part, must be separate from the lifejackets, and such as not to be easily confused with that of the lifejackets.

Subpart D—Survival Craft Arrangements and Equipment

§ 180.110 Survival craft embarkation ladders.

An embarkation ladder, approved under Subpart 160.017 of this chapter, must be at each embarkation station if the distance from the embarkation deck to the vessel's lightest operating waterline is more than 10 feet.

§ 180.130 Stowage of survival craft.

(a) Each survival craft must be:

(1) Secured to the vessel by a painter with a float-free link permanently attached to the vessel except that a float-free link is not required if the vessel operates only on waters not as deep as the length of the painter.

(2) Stowed so that when the vessel sinks the survival craft floats free and, if inflatable, inflates automatically;

(3) Stowed in a way that permits manual release from its securing arrangements;

(4) Ready for immediate use so that two crew members can carry out preparations for embarkation and launching in less than 5 minutes;

(5) Provided with means to prevent shifting;

(6) Stowed in a way that neither the survival craft nor its stowage arrangements will interfere with the embarkation and operation of any other survival craft at any other launching station;

(7) Fully equipped as required under this part; and

(8) Stowed, as far as practicable, in a position sheltered from breaking seas and protected from damage by fire and explosion.

(b) A hydrostatic release unit used in a float-free arrangement must be approved under Subpart 160.062 of this chapter.

(c) A mechanical, manually operated device to assist in launching a survival craft must be provided if:

(1) The survival craft weighs more than 200 pounds; and

(2) The survival craft requires lifting to be launched.

§ 180.137 Stowage of life floats and buoyant apparatus.

(a) In addition to meeting § 180.130 of this part, each life float and buoyant apparatus must be stowed as required under this section.

(b) The float-free link required by § 180.130(a)(1) of this subpart must be:

(1) Certified to meet Subpart 160.073 of this chapter;

(2) Of proper strength for the size of the life float or buoyant apparatus as indicated on its identification tag; and

(3) Secured to the painter at one end and to the vessel on the other end.

(c) The means used to attach the float-free link to the vessel must:

(1) Have a breaking strength of at least the breaking strength of the painter;

(2) If synthetic, be of a dark color or of a type certified to be resistant to deterioration from ultraviolet light; and

(3) If metal, be corrosion resistant.

(d) If the life float or buoyant apparatus does not have a painter attachment fitting, a means for attaching the painter must be provided by a wire or line which:

(1) Encircles the body of the device;

(2) Will not slip off;

(3) Has a breaking strength which is at least the strength of the painter; and

(4) If synthetic, is of a dark color or is of a type certified to be resistant to deterioration from ultraviolet light.

(e) If the vessel carries more than one life float or buoyant apparatus in a group with each group secured by a single painter:

(1) The combined weight of each group of life floats and buoyant apparatus must not exceed 200 pounds;

(2) Each life float and buoyant apparatus must be individually attached to the painter by a line meeting § 180.175(f)(3) (ii), (iii), and (iv) of this part and long enough that each life float or buoyant apparatus can float without contacting any other life float or buoyant apparatus in the group; and

(3) The strength of the float-free link under paragraph (b)(2) of this section and the strength of the painter under § 180.175(f)(3)(ii) of this part must be determined by the combined capacity of the group of life floats and buoyant apparatus.

(f) Life floats and buoyant apparatus must not be stowed in tiers more than four feet high. When stowed in tiers, the separate units must be kept apart by spacers.

§ 180.150 Survival craft launching appliances.

A launching appliance which complies with the installation and arrangement requirements for launching appliances in Subchapter W of this chapter must be provided for each survival craft when either:

(a) The embarkation station for the survival craft is on a deck more than 15 feet above the waterline; or

(b) The survival craft is boarded prior to being placed in the water.

§ 180.175 Survival craft equipment.

(a) *General.* Each item of survival craft equipment must be of good quality, and efficient for the purpose it is intended to serve. Unless otherwise stated in this section, each item of equipment carried, whether required under this section or not, must be secured by lashings, stored in lockers, compartments, brackets, or have equivalent mounting or storage arrangements which do not:

(1) Reduce survival craft capacity;

(2) Reduce space available to the occupants;

(3) Interfere with launching, recovery, or rescue operations; or

(4) Adversely affect seaworthiness of the survival craft.

(b) *Inflatable liferafts.* Each inflatable liferaft must have one of the following equipment packs as shown by the markings on its container:

(1) Limited Service;

(2) SOLAS B Pack;

(3) SOLAS A Pack; or

(4) Ocean Service.

(c) *Life floats.* Each life float must be fitted with a lifeline, pendants, two paddles, a painter, and a light.

(d) *Inflatable buoyant apparatus.* Each inflatable buoyant apparatus must be fitted with a lifeline, a painter, and a light.

(e) *Buoyant apparatus.* Each inflatable buoyant apparatus must be fitted with a lifeline, pendants, a painter, and a light.

(f) *Equipment specifications for life floats, buoyant apparatus, and inflatable buoyant apparatus.* The equipment required for lifefloats, buoyant apparatus, and inflatable buoyant apparatus must meet the following specifications:

(1) *Lifeline and pendants.* The lifeline and pendants must be as furnished by the manufacturer with the approved life float or buoyant apparatus. Replacement lifelines and pendants must meet the requirements in Subpart 160.010 of this chapter.

(2) *Paddle.* Each paddle must be of at least 4 feet in length and buoyant.

(3) *Painter.* The painter must:

(i) Be of at least 100 feet in length, but not less than 3 times the distance between the deck where the life float or buoyant apparatus it serves is stowed and the lowest load waterline of the vessel;

(ii) Have a breaking strength of at least 1,500 pounds, except that if the capacity of the life float or buoyant apparatus is 50 persons or more, the breaking strength must be at least 3,000 pounds;

(iii) Be of a dark color if synthetic, or of a type certified to be resistant to deterioration from ultraviolet light; and

(iv) Be stowed in such a way that it runs out freely when the life float or buoyant apparatus floats away from the sinking vessel.

(4) *Light.* The light must be a floating waterlight, or on an inflatable buoyant apparatus, an approved liferaft canopy light may be substituted. A floating waterlight must be approved under Subpart 161.010 of this chapter. The floating waterlight must be attached to the life float or buoyant apparatus by a 12-thread manila, or equivalent, lanyard of at least 18 feet in length.

(g) *Other survival craft.* If survival craft other than inflatable liferafts, life floats, inflatable buoyant apparatus, and buoyant apparatus are carried on the vessel, such as lifeboats or rigid liferafts, they must be installed, arranged, and equipped as required under Subchapter W of this chapter for passenger vessels on the same route.

Subpart E—Number and Type of Survival Craft

§ 180.200 Survival craft—general.

(a) Each survival craft on a vessel must meet one of the following:

(1) For an inflatable liferaft, Subpart 160.051 of this chapter. Each inflatable liferaft on a vessel on an oceans route must have a capacity of 6 persons or more. Inflatable liferafts may be substituted for inflatable buoyant apparatus, life floats, or buoyant apparatus required under this section;

(2) For a life float, Subpart 160.027 of this chapter. Life floats may be substituted for buoyant apparatus required under this section;

(3) For a buoyant apparatus, Subpart 160.010 of this chapter; and

(4) An inflatable buoyant apparatus must be approved by the Commandant. Inflatable buoyant apparatus may be substituted for life floats or buoyant apparatus required under this section.

(b) If the vessel carries a small boat or boats, the capacity of these boats may be counted toward required buoyant apparatus or life float capacity. Such boats must meet the applicable requirements for safe loading and flotation in 33 CFR Part 183, and must meet the stowage, launching, and equipment requirements in this part for the survival craft they replace.

§ 180.202 Survival craft—vessels on oceans routes.

A vessel on an oceans route must be provided with inflatable liferafts of an aggregate capacity which will accommodate the total number of persons permitted on board. Life floats may be substituted for inflatable liferafts in the following areas at the indicated times of the year:

(a) Gulf of Mexico, Caribbean Sea, and Atlantic Ocean, south of Cape Hatteras, North Carolina (approximately 34°15′ N latitude); year round.

(b) Atlantic Ocean, south of the intersection of the Virginia-Maryland boundary with the coastline (approximately 38°01.6′ N latitude); May through November, inclusive.

(c) Atlantic Ocean, south of Tom's River, New Jersey (approximately 39°57′ N latitude); June through October, inclusive.

(d) Atlantic Ocean, south of 42°08′ N latitude; July through September, inclusive.

(e) Atlantic Ocean, south of Great Bears Head, Massachusetts (approximately 42°55′ N latitude); August and September, inclusive.

(f) Pacific Ocean, south and east of a line which is drawn 255° True from San Mateo Point, California (approximately 33°25.5′ N latitude, 117°35.7′W longitude); May through December, inclusive.

(g) Pacific Ocean, south of the mouth of the Santa Maria River California (approximately 34°58.3′ N latitude, 120°39′ W longitude); July through December, inclusive.

(h) Pacific Ocean, south of Point Reyes, California (approximately 38° N latitude); September.

(i) Pacific Ocean, voyages originating in the state of Hawaii and the Pacific Island territories belonging to the United States, south of 40° N latitude; year round.

§ 180.204 Survival craft—vessels on coastwise and Great Lakes route.

A vessel on a coastwise or Great Lakes route must be provided with inflatable buoyant apparatus of an aggregate capacity which will accommodate the total number of persons permitted on board. In the following areas at the indicated times of the year, buoyant apparatus may be substituted for inflatable buoyant apparatus:

(a) Gulf of Mexico, Caribbean Sea, and Atlantic Ocean, south of Cape Hatteras, North Carolina (approximately 34°59.8′ N latitude); year round.

(b) Atlantic Ocean, south of the intersection of the Virginia-Maryland boundary with the coastline (approximately 38°01.6′ N latitude); May through November, inclusive.

(c) Atlantic Ocean, south and west of a line which is drawn bearing 150° True

from Watch Hill Light, Rhode Island; June through October, inclusive.

(d) Atlantic Ocean, south of 44°35′ N latitude; July through September, inclusive.

(e) Pacific Ocean, south and east of a line which is drawn 255° True from San Mateo Point, California (33°25.5′ N latitude, 117°35.7′ W longitude); March through December, inclusive.

(f) Pacific Ocean, south of the mouth of the Santa Maria River, California (approximately 34°58.3′ N latitude, 120°39′W longitude; June through December, inclusive.

(g) Pacific Ocean, Drakes Bay, California and south of Point Reyes, California (38° N latitude); September.

(h) Pacific Ocean, voyages originating in the state of Hawaii and the Pacific Island territories belonging to the United States, south of 40° N latitude; year round.

(i) Great Lakes; during the time of the year when the OCMI determines that the normal mean water temperature in the area where the vessel operates is at least 59 °F (15 °C).

§ 180.206 Survival craft—vessels on lakes, bays, and sounds routes.

(a) *Vessels carrying more than 150 passengers.* Except as provided in paragraph (b) of this section, a vessel carrying more than 150 passengers on a lakes, bays, and sounds route must be provided with:

(1) During the time of the year when the OCMI determines that the normal mean water temperature in the area where the vessel is operating is less than 59 °F (15 °C), inflatable buoyant apparatus of an aggregate capacity which will accommodate the total number of persons permitted on board; and

(2) During the time of the year when the OCMI determines that the normal mean water temperature in the area where the vessel is operating is at least 59 °F (15 °C), buoyant apparatus of an aggregate capacity which will accommodate 30% of the total number of persons permitted on board.

(b) *Vessels carrying more than 150 passengers, operating within 1 mile of shore.* A vessel carrying more than 150 passengers on a lakes, bays, and sounds route, and operating within 1 mile of shore, must be provided with buoyant apparatus of an aggregate capacity which will accommodate the total number of persons permitted on board during the time of the year when the OCMI determines that the normal mean water temperature in the area where the vessel is operating is less than 59 °F (15 °C). No survival craft are required during the time of the year when the OCMI determines that the normal mean water temperature in the area where the vessel is operating is at least 59 °F (15 °C).

(c) *Vessels carrying not more than 150 passengers.* Except as provided in paragraph (d) of this section, a vessel carrying not more than 150 passengers on a lakes, bays, and sounds route must be provided with buoyant apparatus of an aggregate capacity which will accommodate 30% of the total number of persons permitted on board.

(d) *Vessels carrying not more than 150 passengers, operating within 1 mile of shore.* No survival craft are required on a vessel carrying not more than 150 passengers on a lakes, bays, and sounds route, and operating within 1 mile of shore.

§ 180.208 Survival craft—vessels on a river routes.

(a) *Vessels carrying more than 150 passengers.* Except as provided in paragraph (c) of this section, a vessel carrying more than 150 passengers on a river route must be provided with:

(1) During the time of the year when the OCMI determines that the normal mean water temperature in the area where the vessel is operating is less than 59 °F (15 °C), inflatable buoyant apparatus of an aggregate capacity which will accommodate the total number of persons permitted on board; and

(2) During the time of the year when the OCMI determines that the normal mean water temperature in the area where the vessel is operating is at least 59 °F (15 °C), buoyant apparatus of an aggregate capacity which will accommodate 10% of the total number of persons permitted on board.

(b) *Vessels carrying not more than 150 passengers.* Except as provided in paragraph (c) of this section, a vessel carrying not more than 150 passengers on a river route must be provided with buoyant apparatus of an aggregate capacity which will accommodate 10% of the total number of persons permitted on board.

(c) *Vessels operating within 1 mile of shore.* No survival craft are required on a vessel on a river route operating within 1 mile of shore.

§ 180.209 Survival craft—dynamically supported craft.

In addition to the survival craft required by § 180.202, § 180.204, § 180.206, or § 180.208 of this part based on the vessel's route and number of passengers permitted to be carried, a dynamically supported craft must carry additional survival craft for not less than 10 percent of the total number of persons the vessel is carrying.

§ 180.210 Rescue boats.

(a) A vessel of more than 65 feet in length must carry at least one rescue boat unless the OCMI determines that:

(1) The vessel is sufficiently maneuverable, arranged, and equipped to allow the crew to recover a helpless person from the water;

(2) Recovery of the helpless person can be observed from the operating station; and

(3) The vessel does not regularly engage in operations that restrict its maneuverability.

(b) A vessel of not more than 65 feet in length is not required to carry a rescue boat unless:

(1) The vessel carries passengers on an open or partially enclosed deck, and

(2) The OCMI determines that the vessel is designed, arranged, or involved in operations so that the vessel itself cannot serve as an adequate rescue craft.

(c) On a vessel of more than 65 feet in length, a required rescue boat and its installation must meet the requirements in Subchapter W of this chapter for a rescue boat on a passenger vessel on the same route. On a vessel of not more than 65 feet in length, a required rescue boat must be acceptable to the OCMI.

PART 181—FIRE PROTECTION EQUIPMENT

Subpart A—General Provisions

Sec.

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181.600 Fire axe.
181.610 Fire bucket.

Authority: 46 U.S.C. 2104, 3306; 49 CFR 1.46.

Subpart A—General Provisions

§ 181.115 Applicability to existing vessels.

(a) Except as otherwise required by paragraphs (b), (c), and (d) of this section, an existing vessel must comply with the regulations in this part or the fire protection equipment regulations applicable to the vessel on [insert date of day before effective date of regulations].

(b) An existing vessel with a hull or a machinery space boundary bulkhead or deck, composed of or sheathed on the interior in fiber reinforced plastic, must comply with the requirements of § 181.400 of this part on or before [insert date 3 years after effective date of regulations].

(c) An existing vessel equipped with machinery which uses gasoline or other fuels having a flash point of 110 °F or lower must comply with the requirements of § 181.400(j) of this part on or before [insert date 3 years after effective date of regulations].

(d) New installations of fire protection equipment on an existing vessel, that are completed to the satisfaction of the cognizant OCMI on or after [insert effective date of regulations], must comply with the regulations of this part. Replacement of existing equipment installed to comply with the fire protection regulations applicable to the vessel on [insert date of day before effective date of regulations] need not comply with the regulations in this part.

§ 181.120 Equipment installed but not required.

Fire extinguishing and detecting equipment installed on a vessel in excess of the requirements of §§ 181.400 and 181.500 of this part must be of an approved type and comply with the installation requirements of this part. However, the Commandant may accept fire protection or detecting equipment, which is of a type not contemplated by the regulations in this part, if it improves the safety of the vessel.

Subpart B—[Reserved]

Subpart C—Fire Main System

§ 181.300 Fire pumps.

(a) A self-priming, power-driven fire pump must be installed on a vessel of not more than 65 feet in length carrying more than 49 passengers, and on a vessel of more than 65 feet in length.

(b) On a vessel of not more than 65 feet in length, the fire pump must be capable of delivering water from the highest hydrant at a pitot tube pressure of 50 psi in sufficient volume to ensure an effective stream is discharged from a nozzle on a fire hose attached to the hydrant as required by § 181.320 of this section.

(c) On a vessel of more than 65 feet in length, the fire pump must be capable of delivering water simultaneously from the two highest hydrants, or from both branches of the fitting if the highest hydrant has a siamese fitting, at a pitot tube pressure of 50 psi and a flow rate of 80 gpm.

(d) A fire pump may be driven by a propulsion engine. A fire pump must be permanently connected to the fire main and may be connected to the bilge system to meet the requirements of § 182.520 of this subchapter.

(e) A fire pump must be capable of both remote operation from the operating station and local, manual operation at the pump.

(f) The cross-sectional area of the pipes leading from the pump must not be less than the discharge area of the pump.

§ 181.310 Fire main and hydrants.

(a) A vessel which has a power-driven fire pump must have a sufficient number of fire hydrants to reach any part of the vessel using a single length of fire hose.

(b) Piping, valves, and fittings in a fire main system must comply with Subpart G of Part 182 of this subchapter.

§ 181.320 Fire hoses and nozzles.

(a) A fire hose with a nozzle must be attached to each fire hydrant at all times.

(b) Each fire hose on a vessel of more than 65 feet in length must:

(1) Be lined commercial fire hose that conforms to UL 19;

(2) Be 50 feet in length and 1½ inches in diameter; and

(3) Have fittings of brass or other suitable corrosion-resistant material which comply with NFPA 1963.

(c) Each fire hose on a vessel of not more than 65 feet in length must:

(1) Comply with paragraphs (b)(1) and (b)(3) of this section or be garden type hose of not less than ⅝ inch nominal inside diameter;

(2) Be of one piece not less than 25 feet and not more than 50 feet in length; and

(3) If of the garden type, be of a good commercial grade constructed of an inner rubber tube, plies of braided fabric reinforcement and an outer rubber cover or of equivalent material, and of sufficient strength to withstand the maximum pressure which can be produced by the fire pump. All fittings on the hose must be of suitable corrosion-resistant material.

(d) Each nozzle must be of corrosion-resistant material and be capable of providing a solid stream or spray pattern. A nozzle on a vessel of more than 65 feet in length must be of an approved type.

Subpart D—Fixed Fire Extinguishing and Detecting Systems

§ 181.400 Where required.

(a) The following spaces must be equipped with a Halon or carbon dioxide fixed gas fire extinguishing system, in compliance with § 181.410 of this part, except as otherwise allowed by paragraph (b) of this section:

(1) A space containing propulsion machinery;

(2) A space containing an internal combustion engine of more than 50 hp;

(3) A space containing an oil fired boiler;

(4) A space containing gasoline powered machinery or any machinery powered by a fuel with a flash point of 110 °F or lower;

(5) A space containing a fuel tank with gasoline or any other fuel with a flash point of 110 °F or lower;

(6) A space containing combustible cargo inaccessible during the voyage;

(7) A paint locker; and

(8) A space containing flammable liquid stores.

(b) System types, alternatives, and exceptions.

(1) A fixed gas fire extinguishing system, which is capable of automatic discharge upon heat detection, may only be installed in a normally unoccupied space with a gross volume of not more than 6000 cubic feet.

(2) A pre-engineered Halon fixed gas fire extinguishing system must be in compliance with § 181.420 of this part and may only be installed in a normally unoccupied machinery space, a paint locker, or a space containing flammable liquid stores, which has a gross volume of not more than 1200 cubic feet.

(3) A B–II portable fire extinguisher installed outside the space may be substituted for a fixed gas fire extinguishing system in a space containing flammable liquid stores or a paint locker with a volume of not more that 200 cubic feet.

(4) A space which is so open to the atmosphere that a fixed gas fire extinguishing system would be

ineffective, as determined by the OCMI, is not required to have a fixed gas fire extinguishing system.

(c) The following spaces must be equipped with an approved fire detecting system, in compliance with § 181.460 of this part, except when a fixed gas fire extinguishing system which is capable of automatic discharge upon heat detection is installed or when the space is manned:

(1) A space containing propulsion machinery;

(2) A space containing an internal combustion engine of more than 50 hp;

(3) A space containing an oil fired boiler;

(4) A space containing gasoline powered machinery or any machinery powered by a fuel with a flash point of 110 °F or lower; and

(5) A space containing a fuel tank with gasoline or any other fuel with a flash point of 110 °F or lower.

(d) A galley on a vessel with overnight accommodations for more than 49 passengers, and on a vessel carrying more than 400 passengers, must have a grease extraction hood in compliance with § 181.425 of this section fitted over all grills, broilers, and deep fat fryers.

(e) An overnight accommodation space on a vessel with overnight accommodations for not more than 49 passengers must be fitted with an independent modular smoke detecting and alarm unit in compliance with § 181.450 of this section.

(f) A vessel carrying more than 150 passengers must be fitted with a smoke actuated, fire detecting system in compliance with § 181.460 of this part in accommodation spaces and service spaces.

(g) A vessel with overnight accommodations for more than 49 passengers, and a vessel carrying more than 400 passengers, must be fitted with a fire detecting system in compliance with § 181.460, and a manual alarm system in compliance with § 181.470 of this part, in accommodation spaces and service spaces.

(h) An enclosed vehicle space must be fitted with an automatic sprinkler system; and

(1) A smoke actuated, fire detecting system in compliance with § 181.460 of this part; or

(2) A smoke detecting system in compliance with § 181.465 of this part.

(i) A partially enclosed vehicle space must be fitted with:

(1) A manual sprinkler system in compliance with § 181.430 of this part; or

(2) An automatic sprinkler system in compliance with § 181.440 of this part.

(j) A machinery space containing propulsion machinery or an internal combustion engine which uses gasoline or other fuel having a flash point of 110 °F or lower must be equipped with a flammable vapor detection system in compliance with § 181.480 of this part.

§ 181.410 Fixed gas fire extinguishing systems.

(a) *General.* (1) A fixed gas fire extinguishing system aboard a vessel must be approved by the Commandant, and be custom engineered to meet the requirements of this section unless the system meets the requirements of § 181.420 of this part.

(2) System components must be listed and labeled by an independent laboratory. A component from a different system, even if from the same manufacturer, must not be used unless included in the approval of the installed system.

(3) System design and installation must be in accordance with the Marine Design, Installation, Operation, and Maintenance Manual approved for the system by the Commandant.

(4) A fixed gas fire extinguishing system may protect more than one space. The quantity of extinguishing agent must be at least sufficient for the space requiring the greatest quantity as determined by the requirements of paragraphs (f)(4) and (g)(2) of this section.

(b) *Controls.* (1) Controls and valves for operation of a fixed gas fire extinguishing system must be:

(i) Located outside the space protected by the system; and

(ii) Not located in a space that might be inaccessible in the event of fire in the space protected by the system.

(2) Except as provided in paragraph (c)(2) of this section, release of an extinguishing agent into a space must require operation of two distinct controls.

(3) A system must have local manual controls at the storage cylinders capable of releasing the extinguishing agent. In addition, a normally manned space must have remote controls for releasing the extinguishing agent at the primary exit from the space.

(4) Remote controls must be located in a break-glass enclosure to preclude accidental discharge.

(5) Valves and controls must be of an approved type and protected from damage or accidental activation. A pull cable used to activate the system controls must be located in conduit.

(6) A system protecting more than one space must have a manifold with a normally closed stop valve for each space protected.

(7) A gas actuated valve or device must be capable of manual override at the valve or device.

(8) A system, which has more than one storage cylinder for the extinguishing agent and which relies on pilot cylinders to activate the primary storage cylinders, must have at least two pilot cylinders. Local manual controls, in compliance with paragraph (b)(3) of this section, must be provided to operate the pilot cylinders but are not required for the primary storage cylinders.

(9) A system protecting a manned space must be fitted with an approved time delay and alarm arranged to require the alarm to sound for at least 20 seconds or the time necessary to escape from the space, whichever is greater, before the agent is released into the space. Alarms must be conspicuously and centrally located. The alarm must be powered by the extinguishing agent.

(10) A device must be provided to automatically shut down power ventilation serving the protected space and engines which draw intake air from the protected space prior to release of the extinguishing agent into the space.

(11) Controls and storage cylinders must not be in a locked space unless the key is in a break-glass-type box conspicuously located adjacent to the space.

(c) *Storage space.* (1) Except as provided in paragraph (c)(2) of this section, a storage cylinder for a fixed gas extinguishing system must be:

(i) Located outside the space protected by the system; and

(ii) Not located in a space that might be inaccessible in the event of a fire in the space protected by the system.

(2) A normally unoccupied space of less than 6000 cubic feet may have the storage cylinders located within the space protected. When the storage cylinders are located in the space:

(i) The system must be capable of automatic operation by a heat actuator within the space; and

(ii) Have manual controls in compliance with paragraph (b) of this section except for paragraphs (b)(2) and (b)(3).

(3) A space containing a storage cylinder must be maintained at a temperature within the range from −20 °F (−30 °C) to 130 °F (55 °C) or at another temperature as listed by the independent laboratory and stated in the manufacturer's approved manual.

(4) A storage cylinder must be securely fastened, supported, and protected against damage.

(5) A storage cylinder must be accessible and capable of easy removal

for recharging and inspection. Provisions must be available for weighing each storage cylinder in place.

(6) Where subject to moisture, a storage cylinder must be installed to provide a space of at least 2 inches between the deck and the bottom of the storage cylinder.

(7) A Halon 1301 storage cylinder must be stowed in an upright position unless otherwise listed by the independent laboratory. A carbon dioxide cylinder may be inclined not more than 30 degrees from the vertical, unless fitted with flexible or bent siphon tubes, in which case they may be inclined not more than 80 degrees from the vertical.

(8) Where a check valve is not fitted on an independent storage cylinder discharge, a plug or cap must be provided for closing the outlet resulting from storage cylinder removal.

(9) Each storage cylinder must meet the requirements of § 147.60 of this chapter.

(10) A storage cylinder space must have doors which open outwards or be fitted with kickout panels installed in each door.

(d) *Piping.* (1) A pipe, valve, or fitting of ferrous material must be protected inside and outside against corrosion unless otherwise approved by the Commandant. Aluminum or other low melting material must not be used for a component of a fixed gas fire extingishing system except as specifically approved by the Commandant.

(2) A distribution line must extend at least 2 inches beyond the last orifice and be closed with a cap or plug.

(3) Piping, valves, and fittings must be securely supported, and where necessary, protected against damage.

(4) Drains and dirt traps must be fitted where necessary to prevent the accumulation of dirt or moisture and located in accessible locations.

(5) Piping must be used for no other purpose except that it may be incorporated with the fire detecting system.

(6) Piping passing through accommodation spaces must not be fitted with drains or other openings within such spaces.

(7) Installation test requirements for carbon dioxide systems. The distribution piping of a carbon dioxide fixed gas extinguishing system must be tested as required by this paragraph, upon completion of the piping installation, using only carbon dioxide, compressed air, or nitrogen gas.

(i) Piping between a storage cylinder and a stop valve in the manifold must be subjected to a pressure of 1,000 psi, except as permitted in paragraph (d)(7)(iii) of this section. Without additional gas being introduced to the system, the pressure drop must not exceed 300 psi after two minutes.

(ii) A distribution line to a space protected by the system must be subjected to a test similar to that described in paragraph (d)(7)(i) of this section except the pressure used must be 600 psi. For the purpose of this test, the distribution piping must be capped within the space protected at the first joint between the nozzles and the storage cylinders.

(iii) A small independent system protecting a space such as a paint locker may be tested by blowing out the piping with air at a pressure of not less than 100 psi instead of the tests prescribed in the paragraphs (d)(7)(i) and (d)(7)(ii) of this section.

(8) Installation test requirements for Halon 1301 systems. The distribution piping of a Halon 1301 fixed gas extinguishing system must be tested, as required by this paragraph, upon completion of the piping installation, using only carbon dioxide, compressed air, or nitrogen.

(i) When pressurizing the piping, pressure must be increased in small increments. Each joint must be subjected to a soap bubble leak test, and all joints must be leak free.

(ii) Piping between the storage cylinders and the manifold stop valve must be subjected to a leak test conducted at the maximum allowable working pressure at 130 °F (55 °C). Without additional gas being added to the system, there must be no loss of pressure over a two minute period after thermal equilibrium is reached.

(iii) Distribution piping between the manifold stop valve and the first nozzle in the system must be capped and pneumatically tested for a period of 10 minutes at 150 psi. At the end of 10 minutes, the pressure drop must not exceed 10% of the test pressure.

(e) *Pressure relief.* When required by the OCMI, spaces which are protected by a fixed gas fire extinguishing system and which are relatively air tight, such as refrigeration spaces, paint lockers, etc., must be provided with suitable means for relieving excessive pressure within the space when the agent is released.

(f) *Specific requirements for carbon dioxide systems.* A custom engineered fixed gas fire extinguishing system, which uses carbon dioxide as the extinguishing agent, must meet the requirements of this paragraph.

(1) Piping, valves, and fittings must have a bursting pressure of not less than 6,000 psi. Piping, in nominal sizes of not more than ¾ inch, must be at least Schedule 40 (standard weight), and in nominal sizes of over ¾ inch, must be at least Schedule 80 (extra heavy).

(2) A pressure relief valve or equivalent set to relieve at between 2,400 and 2,800 psi must be installed in the distribution manifold to protect the piping from overpressurization.

(3) Nozzles must be approved by the Commandant.

(4) When installed in a machinery space, paint locker, a space containing flammable liquid stores, or a space with a fuel tank, a fixed carbon dioxide system must meet the following requirements.

(i) The quantity of carbon dioxide to be provided by the system for a space (in pounds) must not be less than the gross volume of the space divided by the appropriate factor noted in Table 181.410(f)(4)(i). If fuel can drain from a space being protected to an adjacent space or if the spaces are not entirely separate, the volume of both spaces must be used to determine the quantity of carbon dioxide to be provided. The carbon dioxide must be arranged to discharge into both such spaces simultaneously.

TABLE 181.410(f)(4)(i)

Factor	Gross volume of space in cubic feet	
	Over	Not over
15		500
16	500	1,600
18	1,600	4,500
20	4,500	50,000
22	50,000	

(ii) The minimum size of a branch line to a space must be as noted in Table 181.410(f)(4)(ii).

TABLE 181.410(f)(4)(ii)

Maximum quantity of carbon dioxide required (pounds)	Minimum nominal pipe size (inches)	Maximum quantity of carbon dioxide required (pounds)	Minimum-nominal pipe size (inches)
100	½	2,500	2½
225	¾	4,450	3
300	1	7,100	3½
600	1¼	10,450	4
1,000	1½	15,000	4½

(iii) Distribution piping within a space must be proportioned from the distribution line to give proper supply to the outlets without throttling.

(iv) The number, type, and location of discharge outlets must provide uniform

distribution of carbon dioxide throughout a space.

(v) The area of each discharge outlet must not exceed 85 percent nor be less than 35 percent of the nominal cylinder outlet area or the area of the supply pipe, whichever is smaller. The nominal cylinder outlet area (in square inches) is determined by multiplying the factor 0.0022 by the total capacity (in pounds) of all carbon dioxide cylinders in the system, except in no case must the outlet area be of less than 0.110 square inch.

(vi) The discharge of at least 85 percent of the required amount of carbon dioxide must be completed within two minutes.

(5) When installed in an enclosed ventilation system for rotating electrical propulsion equipment a fixed carbon dioxide system must meet the following requirements.

(i) The quantity of carbon dioxide (in pounds) must be sufficient for initial and delayed discharges as required by this paragraph. The initial discharge must be equal to the gross volume of the system divided by 10 for ventilation systems having a volume of less than 2,000 cubic feet, or divided by 12 for ventilation systems having a volume of at least 2,000 cubic feet. In addition, there must be sufficient carbon dioxide available to permit delayed discharges to maintain at least a 25 percent concentration until the equipment can be stopped. If the initial discharge achieves this concentration until the equipment is stopped, a delayed discharge is not required.

(ii) The piping sizes for the initial discharge must be in accordance with Table 181.410(f)(4)(ii) and the discharge of the required amount must be completed within two minutes.

(iii) Piping for the delayed discharge must not be less than ½ inch nominal pipe size, may be incorporated with the initial discharge piping, and need not meet specific requirement for discharge rate.

(6) When installed in a cargo space a fixed carbon dioxide system must meet the following requirements.

(i) The number of pounds of carbon dioxide required for each space in cubic feet must be equal to the gross volume of the space in cubic feet divided by 30;

(ii) System piping must be of at least ¾ inch.

(iii) No specific discharge rate is required.

(g) *Specific requirements for Halon 1301 systems.*

(1) A custom engineered fixed gas fire extinguishing system, which uses Halon 1301, must comply with the applicable sections of UL Standard 1058 and the requirements of this paragraph.

(2) The Halon 1301 quantity and discharge requirements of UL 1058 apply, with the exception that the Halon 1301 design concentration must be 6 percent at the lowest ambient temperature expected in the space. If the lowest temperature is not known, a temperature of 0 degrees F must be assumed.

(3) Each storage cylinder in a system must have the same pressure and volume.

(4) Computer programs used in designing systems must have been approved by an independent laboratory.

§ 181.420 Pre-engineered Halon fixed gas fire extinguishing systems.

(a) A pre-engineered Halon fixed gas fire extinguishing system must:

(1) Be approved by the Commandant;

(2) Be capable of manual actuation from outside the space in addition to automatic actuation by a heat detector; and

(3) Automatically shut down all power ventilation systems and all engines that draw intake air from within the protected space.

(b) A vessel on which a pre-engineered fixed gas system is installed must have the following equipment at the operating station:

(1) A light to indicate the discharge of Halon;

(ii) An audible alarm to sound upon the discharge; and

(iii) A means to reset devices used to automatically shut down ventilation systems and engines as required by paragraph (a)(3) of this section.

§ 181.425 Galley hood fire extinguishing systems.

(a) A grease extraction hood required by § 181.400 of this part must meet UL 710.

(b) A grease extraction hood must be equipped with a pre-engineered dry or wet chemical fire extinguishing system meeting the applicable sections of NFPA 17 or 17A, and must be listed by an independent laboratory.

§ 181.430 Manual sprinkler systems.

A manual sprinkling system must meet the requirements of § 76.23 of this chapter.

§ 181.440 Automatic sprinkler systems.

An automatic sprinkling system must meet the requirements of § 76.25 of this chapter.

§ 181.450 Independent modular smoke detecting units.

(a) An independent modular smoke detecting unit must:

(1) Meet Underwriters Laboratories Standard 217 and be listed as a "Single Station Smoke Detector—Also suitable for use in Recreational Vehicles";

(2) Contain an independent power source; and

(3) Alarm on low power.

§ 181.460 Fire detecting systems.

A fire detecting system must be of an approved type and be installed in accordance with § 76.27 of this chapter.

§ 181.465 Smoke detecting systems.

A smoke detecting system must be of an approved type and be installed in accordance with § 76.33 of this chapter.

§ 181.470 Manual alarm systems.

A manual alarm system must meet the requirements in § 76.35 of this chapter.

§ 181.480 Flammable vapor detection systems.

(a) A flammable vapor detection system must meet UL 1110 and be approved by an independent laboratory.

(b) Procedures for checking the proper operation of a flammable vapor detection system must be posted at the operating station. The system must be self-monitoring and include a ground fault indication alarm.

(c) A flammable vapor detection system must be operational for 30 seconds prior to engine startup and continue sensing so long as the engine runs.

(d) A flammable vapor detection system must provide a visual and audible alarm at the operating station.

(e) A sensor must be located above the expected bilge water level in the following locations:

(1) The lowest part of a machinery space;

(2) The lowest part of a space containing a fuel tank when separate from the machinery space; and

(3) Any other location when required by the cognizant Officer in Charge, Marine Inspection.

(f) A flammable vapor detection system must be installed so as to permit calibration in a vapor free atmosphere.

(g) Electrical connections, wiring, and

components for a flammable vapor detection system must comply with Part 183 of the chapter.

(h) An operation and maintenance manual for the flammable vapor detection system must be kept onboard.

Subpart E—Portable Fire Extinguishers

§ 181.500 Required number, type, and location.

(a) Each portable fire extinguisher on a vessel must be of an approved type. The minimum number of portable fire extinguishers required on a vessel must be acceptable to the Officer in Charge, Marine Inspection, but must be not less than the minimum number required by Table 181.500(a) and other provisions of this section.

TABLE 181.500(a)

Space protected	Minimum number extinguishers required	Type extinguisher permitted		CG class
		Medium	Min. size	
Operating station	1	Halon	2½ lb	B-I, C-I
		CO_2	4 lb	
		Dry chemical	2 lb	
Machinery space	1	Foam	2½ gals	B-I
		Halon	2½ lb	
		CO_2	4 lb	
		Dry chemical	2 lb	
Open vehicle deck	1 for every 10 vehicles	Foam	2½ gals	B-II
		Halon	10 lb	
		CO_2	15 lb	
		Dry chemical	10 lb	
Accommodation space over 500 square feet.	1 for each 2,500 square feet or fraction thereof.	Halon	10 lb	A-II
		CO_2	15 lb	
		Dry chemical	10 lb	
Galley, pantry, concession stand	1	Foam	2½ gals	B-II
		Halon	10 lb	
		CO_2	15 lb	
		Dry chemical	10 lb	

(b) A machinery space with a volume of more than 3,000 cubic feet containing main propulsion machinery, internal combustion engines of over 50 hp, or oil fired boilers must also have one B-II portable fire extinguisher located outside the entrance to the space.

(c) A vehicle deck without a fixed sprinkler system and exposed to weather must have one B-II portable fire extinguisher for every five vehicles, located near an entrance to the space.

(d) The Officer in Charge, Marine Inspection, may permit the use of a larger portable fire extinguisher, or a semiportable fire extinguisher, in lieu of those required by this section.

(e) The frame or support of each B-V fire extinguisher permitted by paragraph (d) of this section must be welded or otherwise permanently attached to a bulkhead or deck.

§ 181.520 Installation and location.

Portable fire extinguishers must be located conveniently to the space protected. The installation and location must be to the satisfaction of the Officer in Charge, Marine Inspection.

Subpart F—Additional Equipment

§ 181.600 Fire axe.

A vessel of more than 65 feet in length must have at least one fire axe located in or adjacent to the operating station.

§ 181.610 Fire bucket.

A vessel must have at least three 2½ gallon buckets, with an attached lanyard satisfactory to the OCMI, placed so as to be easily available during an emergency. The words "FIRE BUCKET" must be stenciled in a contrasting color on each bucket.

PART 182—MACHINERY INSTALLATION

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Authority: 46 U.S.C. 2104, 3306; 49 CFR 1.46.

Subpart A—General Provisions

§ 182.100 Intent.

This part contains requirements for the design, construction, installation, and operation of propulsion and auxiliary machinery, piping and pressure systems, steering apparatus, and associated safety systems. Machinery and equipment installed on each vessel must be suitable for the vessel and its operation and for the purpose intended. All machinery and equipment must be installed and maintained in such a manner as to afford adequate protection against fire, explosion, machinery failure, and personnel injury.

§ 182.115 Applicability to existing vessels.

(a) Except as otherwise required by paragraph (b) of this section, an existing vessel must comply with the regulations in this part or with the regulations on machinery, bilge and ballast system equipment, steering apparatus, and piping systems or components that were applicable to the vessel on [insert date of day before effective date of regulations].

(b) New installations on existing vessels of machinery, bilge and ballast system equipment, steering equipment, and piping systems or components that are completed to the satisfaction of the cognizant OCMI on or after [effective date of regulations] must comply with the regulations of this part.

§ 182.130 Alternative standards.

A vessel, other than a dynamically supported craft, propelled by gasoline or diesel internal combustion engines, of not more than 65 feet in length carrying not more than 12 passengers, may comply with all of the following requirements instead of complying with the requirements of this part in their entirety:

(a) The following specific requirements in this part:

(1) Auxiliary boilers, hot water heaters, and all unfired pressure vessels must comply with Subpart C;

(2) Gasoline engines must comply with § 182.415;

(3) Bilge systems must comply with § 182.500;

(4) Steering systems must comply with Subpart F; and

(b) The following American Boat and Yacht Council (ABYC) Projects and regulations in 33 CFR Subchapter S (Boating Safety) where applicable:

(1) H–2—"Ventilation, Gasoline Boats," or 33 CFR 183 Subpart K—"Ventilation";

(2) H–22—"Electrically Operated Bilge Pumps";

(3) H–24—"Fuel Systems—Gasoline", or 33 CFR Part 183, Subpart J—"Fuel System";

(4) H–25—"Portable Fuel Systems for Flammable Liquids";

(5) H–32—"Ventilation—Diesel Boats";

(6) H–33—"Fuel Systems—Diesel";

(7) P–1—"Installation of Exhaust Systems for Propulsion and Auxiliary Engines";

(8) P–4—"Liquid Cooled Marine Engines"; and

(9) P–10—"Air Cooled Marine Engines".

Subpart B—Propulsion Machinery

§ 182.200 General.

(a) Propulsion machinery must be suitable in type and design for propulsion requirements of the hull in which it is installed and capable of operating at constant marine load under such requirements without exceeding its designed limitations.

(b) All engines must have at least two means for stopping the engine(s) under any operating conditions. The fuel oil shutoff required at the engine by § 182.455(b)(4) will satisfy one means of stopping the engine. A diesel or gas turbine engine rated at 300 hp or more must additionally be provided with an emergency overspeed shutdown device connected, where possible, directly to the engine shaft.

§ 182.210 Failure mode and effects analysis for dynamically supported craft.

A failure mode and effects analysis must be carried out, to the satisfaction of the Officer in Charge, Marine Inspection, for each type of machinery and associated controls installed in a dynamically supported craft. In cases where faults can occur without being detected during routine checks of the machinery, the analysis must take into account the possibility of faults occurring simultaneously or consecutively.

§ 182.220 Installations.

(a) Except as otherwise provided in this section, propulsion machinery installations must comply with the provisions of this part.

(b) The requirements for machinery and boilers for steam and electrically propelled vessels are contained in applicable regulations in Subchapter F (Marine Engineering) and Subchapter J (Electrical Engineering) of this chapter.

(c) Propulsion machinery of an unusual type for small passenger vessels must be given separate consideration and must be subject to such requirements as determined necessary by the Officer in Charge, Marine Inspection. These unusual types of propulsion machinery include:

(1) Gas turbine machinery installations;

(2) Air screws;

(3) Hydraulic jets; and

(4) Machinery installations using propulsion and lift devices.

Subpart C—Auxiliary Machinery

§ 182.300 General.

Auxiliary machinery must be suitable in type and design for the purpose intended.

§ 182.310 Installations.

(a) Auxiliary machinery of the internal combustion piston type must comply with the provisions of this part.

(b) Auxiliary machinery of the steam or gas turbine type will be given separate consideration and may be subject to applicable requirements of Subchapter F (Marine Engineering) of this chapter as determined necessary by the Officer in Charge, Marine Inspection.

(c) Auxiliary boilers and heating boilers and their associated piping and fittings will be given separate consideration and will be subject to such requirements as determined by the OCMI. These requirements must be as specified in applicable regulations in Subchapter F (Marine Engineering) of this chapter except that heating boilers must be tested or examined every three years.

§ 182.320 Hot water heaters.

(a) A hot water heater must meet the requirements of Parts 52 and 63 of this chapter if rated at more than 100 psig (689 kPa) or 250 °F (121 °C).

(b) A hot water heater must meet the requirements of Parts 53 and 63 of this chapter if rated at not more than 100 psig (689 kPa) and 250 °F (121 °C), except that an electric hot water heater is also acceptable if it:

(1) Has a capacity of not more than 120 gallons (454 liters);

(2) Has a heat input of not more than 58.6 kilowatts (200,000 Btu per hour);

(3) Is listed by Underwriters' Laboratories under UL Standard 174 or 1453; and

(4) Is protected by a pressure/temperature relief device.

§ 182.330 Pressure vessels.

All unfired pressure vessels must be installed to the satisfaction of the Officer in Charge, Marine Inspection. The requirements for design, construction, and original testing of such unfired pressure vessels are found in

Subchapter F (Marine Engineering) of this chapter.

Subpart D—Specific Machinery Requirements

§ 182.400 Applicability.

(a) This subpart applies to all propulsion and auxiliary machinery installations of the internal combustion piston type.

(b) Requirements of this subpart that are only applicable to engines which use gasoline, or other fuel having a flashpoint of 110 °F or lower, are specifically designated.

(c) Requirements of this subpart that are only applicable to engines which use diesel fuel, or other fuel having a flashpoint of more than 110 °F, are specifically designated.

(d) Where no specific gasoline or diesel designation exists, the requirements of this subpart are applicable to both types of engines.

§ 182.405 Fuel restrictions.

(a) The use of liquefied and non-liquefied flammable gases, such as propane, methane, butane, or natural gas, as fuel for an internal combustion engine is prohibited on all vessels.

(b) The use of gasoline as fuel for an internal combustion engine is prohibited on dynamically supported craft.

§ 182.410 General requirements.

(a) Starting motors, generators, and any spark producing device must be mounted as high above the bilges as practicable. Electrical equipment in spaces, compartments, or enclosures that contain gasoline fueled machinery or gasoline fuel tanks must be explosionproof, intrinsically safe, or ignition protected for use in a gasoline atmosphere as required by § 183.530 of this subchapter.

(b) The design, construction, and materials used for machinery must minimize the probability of failure resulting in hazard to the vessel or occupants. The design and installation of machinery containing high energy rotating parts must consider the likelihood of ejection of high energy debris in the event of failure. Where practicable, the debris must be contained either within the machinery or by an external guard.

(c) Gauges to indicate cooling water discharge temperature and lubricating oil pressure must be provided for all propulsion engines. The gauges must be readily visible at the operating station. When an engine is water cooled and its exhaust pipe is cooled by a separate water cooling system, a suitable warning, visible or audible at the operating station, must be provided to indicate any failure of water flow in the exhaust system. In addition, upon consideration of the design, type of machinery, and service of a dynamically supported craft, the Officer in Charge, Marine Inspection, may require that propulsion or lift machinery be provided with warning and protection devices to monitor, where applicable, machinery r.p.m., torque, and exhaust gas temperature, and which will activate if approved operating limitations are exceeded.

(d) In dynamically supported craft, arrangements must be provided for an alarm, or to slow the engine to a safe speed, in the event of the lubricating oil pressure falling to a dangerously low level as defined by the engine manufacturer. Automatic shut-down of the engine must only be activated by conditions which could lead to complete breakdown, fire, or explosion.

(e) An enclosed machinery space containing a gasoline engine must be fitted with a flammable vapor detection system in compliance with § 181.480 of this subchapter.

(f) Where diesel engines are arranged to be started, reversed, or controlled by compressed air, the arrangement of the air compressor, air receiver, and air starting system must be designed to minimize the risk of fire and explosion.

§ 182.415 Carburetors.

(a) All carburetors except the downdraft type must be equipped with integral or externally fitted drip collectors of adequate capacity and arranged so as to permit ready removal of fuel leakage. Externally fitted drip collectors, must be covered with flame screens. Drip collectors, where practicable, should automatically drain back to engine air intakes.

(b) All gasoline engines must be equipped with an acceptable means of backfire flame control. The following are acceptable means of backfire flame control for gasoline engines:

(1) A backfire flame arrester approved and marked under § 162.041 of this chapter. The flame arrester must be secured to the air intake in accordance with the manufacturer's instructions.

(2) An engine air and fuel induction system which provides adequate protection from propagation of backfire flame to the atmosphere equivalent to that provided by an approved backfire flame arrester. An air and fuel induction system, operated without an approved backfire flame arrester, must be approved and marked under § 162.042 of this chapter.

(3) Flames caused by engine backfire exiting from any attachment to the carburetor or the engine air induction system must be dispersed to the atmosphere outside the vessel in a manner that will not endanger the vessel, persons on board, or nearby vessels and structures. All attachments must be of metallic construction with connections which prevent flame propagation and are firmly secured to withstand vibration, shock, and engine backfire. Such installations do not require formal approval and labeling, but will be accepted on the basis of compliance with this subpart.

(4) An engine air induction system on a vessel with an integrated engine-vessel design must be approved, marked, and tested under § 162.043 of this chapter.

§ 182.420 Engine cooling.

(a) Except as otherwise provided in paragraphs (b), (c), (d), and (e) of this section, all engines must be water cooled and meet the requirements of this paragraph.

(1) The engine head, block, and exhaust manifold must be water jacketed and cooled by water from a pump which operates whenever the engine is operating.

(2) A suitable hull strainer must be installed in the circulating water intake line of an engine cooling water system.

(3) A closed fresh water system may be used to cool the engine.

(4) Air cooled radiators must not be used for propulsion engine cooling systems.

(b) An engine water cooling system on a vessel of not more than 65 feet in length carrying not more than 12 passengers, may comply with the requirements of ABYC Project P–4, "Liquid Cooled Marine Engines," instead of the requirements of paragraph (a) of this section.

(c) On a vessel of not more than 65 feet in length carrying not more than 12 passengers, a propulsion gasoline engine may be air cooled when in compliance with the requirements of ABYC Project P–10, "Air Cooled Marine Engines."

(d) An auxiliary gasoline engine may be air cooled when:

(1) It has a self-contained fuel system and it is installed on an open deck; or

(2) On a vessel of not more than 65 feet in length carrying not more than 12 passengers, it is in compliance with the requirements of ABYC Project P–10, "Air Cooled Marine Engines."

(e) A propulsion or auxiliary diesel engine may be air cooled when installed:

(1) On an open deck;

(2) In an enclosed or partially enclosed space for which ventilation is

provided which complies with the requirement of § 182.465(b) of this part, and other necessary safeguards are taken so as not to endanger the vessel; or

(3) On a vessel of not more than 65 feet in length carrying not more than 12 passengers, in compliance with the requirements of ABYC Project P-10, "Air Cooled Marine Engines."

§ 182.422 Keel cooler installations.

(a) A keel cooler installation used for engine cooling must have a shutoff valve in the keel cooler piping which penetrates the shell, located as near the shell plating as practicable, except where:

(1) The penetration is forward of the collision bulkhead; or

(2) The keel cooler is integral with the ship's hull such that the cooler tubes are welded directly to the hull of the vessel with the hull forming part of the tubes and all of the following are complied with:

(i) The cooler structure is fabricated from material of the same quality as the hull plating;

(ii) The material of the cooler structure is the same thickness as the hull plating to which it is attached, except that, in the case of half round pipe, lesser thickness may be used if specifically approved by the OCMI. In any case the structure, with the exception of the hull proper, need not exceed three-eighths of an inch in thickness;

(iii) The flexible connections in such a keel cooler system are above the deepest load waterline;

(iv) Full penetration welds are employed in the fabrication of the structure and its attachment to the hull; and

(v) The forward end of the structure is faired to the hull with the horizontal length of the fairing not less than four times the height of the structure.

(b) The thickness of the inlet and discharge connections, outboard of the shutoff valves required by paragraph (a) of this section, must be at least Schedule 80.

(c) Approved metallic flexible connections may be located below the deepest load waterline if the keel cooler system is a closed loop below the waterline and its vent terminates above the waterline.

(d) Fillet welds may be used in the attachment of channels and half round pipe sections to the bottom of the vessel.

(e) Short lengths of approved nonmetallic flexible hose, fixed by hose clamps, may be used at machinery connections for a keel cooler installation provided that:

(1) The clamps are of a corrosion resistant metallic material;

(2) The clamps do not depend on spring tension for their holding power; and

(3) Two clamps are used on each end of the hose or one hose clamp is used and the pipe ends are expanded or beaded to provide a positive stop against hose slippage.

§ 182.423 Grid cooler installations.

(a) Hull penetrations for grid cooler installations must be made through a cofferdam or at a seachest.

(b) Grid coolers must be suitably protected against damage from debris and grounding by recessing the unit into the hull or by the placement of protective guards.

(c) Each grid cooler hull penetration must be equipped with a shutoff valve.

§ 182.425 Engine exhaust cooling.

(a) Except as otherwise provided in this paragraph, all engine exhaust pipes must be water cooled.

(1) Vertical dry exhaust pipes are permissible if installed in compliance with §§ 177.400(b) and 177.970 of this subchapter.

(2) Horizontal dry exhaust pipes are permitted only if:

(i) They do not pass through living or berthing spaces;

(ii) They terminate above the deepest load waterline;

(iii) They are so arranged as to prevent entry of cold water from rough or boarding seas;

(iv) They are constructed of corrosion resisting material at the hull penetration; and

(v) They are installed in compliance with §§ 177.400(b) and 177.970 of this subchapter.

(b) The exhaust pipe cooling water system must comply with the requirements of this paragraph.

(1) Water for cooling the exhaust pipe must be obtained from the engine cooling water system or a separate engine driven pump.

(2) Water for cooling the exhaust pipe, other than a vertical exhaust, must be injected into the exhaust system as near to the engine manifold as practicable. The water must pass through the entire length of the exhaust pipe.

(3) The part of the exhaust system between the point of cooling water injection and the engine manifold must be water-jacketed or effectively insulated and protected in compliance with §§ 177.400(b) and 177.970 of this subchapter.

(4) Vertical exhaust pipes must be water-jacketed or suitably insulated between the engine manifold and the spark arrester required by § 182.430(g) of this part.

(5) When the exhaust cooling system is separate from the engine cooling system, a visual or audible warning device must be installed at the operating station to indicate any failure of water flow in the exhaust cooling system.

(6) A suitable hull strainer must be installed in the circulating water intake line for the exhaust cooling system.

(c) Engine exhaust cooling systems built in accordance with the requirements of American Boat and Yacht Council Project P-1, "Installation of Exhaust Systems for Propulsion and Auxiliary Machinery," will be considered as meeting the requirements of this section.

§ 182.430 Engine exhaust pipe installation.

(a) Exhaust piping must contain a minimum number of bends or elbows. Exhaust gas must not leak from the piping or any connections. The piping must be properly supported by hangers or blocks. In the case of dry exhaust systems all hangers and blocks must be non-combustible.

(b) The exhaust piping must be so arranged as to prevent backflow of water from reaching engine exhaust ports under normal conditions.

(c) Pipes used for wet exhaust lines must be Schedule 80 or corrosion-resistant material and adequately protected from mechanical damage. Materials listed in ABYC Project P-1 comply with the requirements of this paragraph.

(d) Where flexibility is necessary, a section of flexible metallic hose may be used. Nonmetallic hose may be used for wet exhaust systems provided it is especially adapted to resist the action of oil, acid, and heat, and has a wall thickness sufficient to prevent collapsing or panting.

(e) Where an exhaust pipe passes through a watertight bulkhead the watertight integrity of the bulkhead must be maintained. Non-combustible packing must be used in bulkhead penetration glands for dry exhaust systems. A wet exhaust pipe may be welded to a steel bulkhead in way of a penetration and a fiberglass wet exhaust pipe may be fiberglassed to a fiberglass reinforced plastic bulkhead if suitable arrangements are provided to relieve the stresses resulting from the expansion of the exhaust piping.

(f) Where a dry exhaust pipe passes through a combustible bulkhead or partition, the pipe must be installed in compliance with § 177.400(b) of this subchapter.

(g) Vertical exhaust piping must be fitted with a spark arrester except that exhaust piping from an engine fitted with a turbocharger need not be fitted with a spark arrester provided all exhaust gasses pass through the turbine wheel and no by-pass is installed around the turbocharger. Spark arresters must be supported by suitable steel hangers and must be lagged with fire resistant material. A clearance of at least 9 inches must be maintained between the spark arrester and any woodwork.

(h) Protection must be provided in compliance with § 177.970 of this subchapter at such locations where persons or equipment might come in contact with an exhaust pipe.

(i) Arrangements must be made to provide access to the exhaust piping throughout its length.

(j) The design of all exhaust systems must ensure minimum risk of damage to structure or components and injury to personnel. No exhaust may be discharged into the cushion of a surface effect type dynamically supported craft.

(k) Where an exhaust pipe penetrates any structure, adequate insulation or shielding must be provided.

(l) Exhaust piping must not be positioned such that failure or leakage could adversely affect the normal operation of controls.

(m) An exhaust pipe discharge must be so located that exhaust gases cannot re-enter the vessel.

(n) An exhaust pipe discharge located less than 3 inches above the deepest load waterline must be fitted with means to prevent the ingress of water.

(o) An exhaust installation subject to pressures in excess of 15 pounds per square inch gauge or having exhaust pipes passing through living or working spaces must meet the material requirements of Part 56 of Subchapter F (Marine Engineering) of this chapter.

(p) Engine exhaust installations built in accordance with the requirements of ABYC Project P–1, "Installations of Exhaust Systems for Propulsion and Auxiliary Machinery," will be considered as meeting the requirements of this section.

§ 182.435 Integral fuel tanks.

(a) Gasoline fuel tanks must be independent of the hull.

(b) Diesel fuel tanks may not be built integral with the hull of a vessel unless the hull is made of:

(1) Steel;

(2) Aluminum; or

(3) Fiber reinforced plastic when:

(i) Sandwich construction is not used; or

(ii) Sandwich construction is used with only a core material of closed-cell, polyvinyl chloride.

(c) During the initial inspection for certification of a vessel, integral fuel tanks must withstand a hydrostatic pressure test of 5 pounds per square inch, or the maximum pressure head to which they may be subjected in service, whichever is greater.

§ 182.440 Independent fuel tanks.

(a) *Materials and construction.* Independent fuel tanks must be designed and constructed of materials in compliance with the requirements of this paragraph.

(1) The material used and the minimum thickness allowed must be as indicated in Table 182.440(a)(1), except that other materials which provide equivalent safety may be approved for use under paragraph (a)(2) of this section. Tanks having a capacity of more than 150 gallons must be designed to withstand the maximum head to which they may be subjected in service, but in no case may the thickness be less than that specified in Table 182.440(a)(1).

TABLE 182.440(a)(1)

Material	ASTM specification (latest edition)	Thickness in inches and gage number [1] vs. tank capacities for—		
		1 to 80 gallon tank	More than 80 and not more than 150 gallon tank	Over 150 [6] gallon tank
Nickel-copper	B127, hot rolled sheet or plate	0.037 (USSG 20[2])	0.050 (USSG 18)	0.107 (USSG 12).
Copper-nickel [3]	B122, UNS alloy C71500	0.045 (AWG 17)	0.057 (AWG 15)	0.128 (AWG 8).
Copper [3]	B152, UNS alloy C11000	0.057 (AWG 15)	0.081 (AWG 12)	0.182 (AWG 5).
Copper-silicon [3]	B96, alloys A, B, and C	0.051 (AWG 16)	0.064 (AWG 14)	0.144 (AWG 7).
Steel or iron [4]		0.0747 (MSG 14)	0.1046 (MSG 12)	0.1793 (MSG 7).
Aluminum [5]	B209, alloy 5052, 5083, 5086	0.250 (USSG 3)	0.250 (USSG 3)	0.250 (USSG 3).

[1] The gage numbers used in this table may be found in many standard engineering reference books. The letters "USSG" stand for "U.S. Standard Gage," which was established by the act of March 3, 1892 (15 U.S.C. 206), for sheet and plate iron and steel. The letters "AWG" stand for "American Wire Gage" (or Brown and Sharpe Gage) for nonferrous sheet thickness. The letters "MSG" stand for "Manufacturers' Standard Gage" for sheet steel thickness.

[2] Nickel-copper not less than 0.031 inch (USSG 22) may be used for tanks up to 30-gallon capacity.

[3] Acceptable only for gasoline service.

[4] Gasoline fuel tanks constructed of iron or steel, which are less than 3/16-inch thick, shall be galvanized inside and outside by the hot dip process. Tanks intended for use with diesel oil shall not be internally galvanized. Stainless steel tanks are not included in this category.

[5] Anodic to most common metals. Avoid dissimilar metal contact with tank body.

[6] Tanks over 400 gallons shall be designed with a factor of safety of four on the ultimate strength of the material used with a design head of not less than 4 feet of liquid above the top of the tank.

(2) Materials other than those listed in Table 182.440(a)(1) must be approved by the Commandant. An independent tank using material approved by the Commandant under this paragraph must meet the testing requirements of UL Standard 1102. Testing may be accomplished by an independent laboratory or by the fabricator if witnessed by a marine inspector.

(3) Tanks with flanged-up top edges which may trap and hold moisture are prohibited.

(4) Openings for fill pipes, vent pipes, and machinery fuel supply pipes, and openings for fuel level gauges, where used, must be on the topmost surfaces of tanks. Tanks may not have any openings in bottoms, sides, or ends, except for:

(i) An opening fitted with a threaded plug or cap installed for tank cleaning purposes; and

(ii) In a diesel fuel tank, the opening for the supply piping.

(5) All tank joints must be welded or brazed. Lap joints may not be used.

(6) Nozzles, flanges, or other fittings for pipe connections must be welded or brazed to the tank. Tank openings in way of pipe connections must be properly reinforced where necessary. Where fuel level gauges are used, the flanges to which gauge fittings are attached must be welded or brazed to the tank. No tubular gauge glasses or trycocks may be fitted to gasoline fuel tanks.

(7) A tank exceeding 30 inches in any horizontal dimension must be:

(i) Fitted with vertical baffle plates at intervals not exceeding 30 inches, which meet paragraph (a)(8) of this section, to provide strength and to control the excessive surge of fuel; or

(ii) Designed so that the vessel's stability is not adversely affected by the tank dynamic conditions as shown by calculations required by paragraph (a)(9) of this section.

(8) Baffle plates, where required, must be of the same material and not less than the minimum thickness required in the tank walls and must be connected to the tank walls by welding or brazing. Limber holes at the bottom and air holes at the top of all baffles must be provided.

(9) For a tank exceeding 30 inches in any horizontal dimension, which does not have baffle plates at intervals not exceeding 30 inches, the owner must submit calculations to the OCMI demonstrating the structural adequacy of the tank in a fully loaded static condition and in a worst case dynamic (sloshing) condition.

(10) Iron or steel diesel fuel tanks must not be galvanized on the interior. Galvanizing, paint, or other suitable coating must be used to protect the outside of iron and steel diesel fuel tanks and the inside and outside of iron and steel fuel gasoline tanks.

(b) *Location and installation.* Independent fuel tanks must be located and installed in compliance with the requirements of this paragraph.

(1) Fuel tanks must be located in, or as close as practicable to, machinery spaces.

(2) Fuel tanks and fittings must be so installed as to permit examination, testing, or removal for cleaning with minimum disturbance to the hull structure.

(3) Fuel tanks must be adequately supported and braced to prevent movement. The supports and braces must be insulated from contact with the tank surfaces with a non-abrasive and non-absorbent material.

(4) All fuel tanks must be electrically bonded to a common ground.

(c) *Tests.* Independent fuel tanks must be tested in compliance with the requirements of this part prior to being used to carry fuel.

(1) Prior to installation, tanks vented to the atmosphere must be hydrostatically tested to, and must withstand, a pressure of 5 pounds per square inch or 1½ times the maximum pressure head to which they may be subjected in service, whichever is greater. A standpipe of 11½ feet in height attached to the tank may be filled with water to accomplish the 5 pounds per square inch test. Permanent deformation of the tank will not be cause for rejection unless accompanied by leakage.

(2) After installation of the fuel tank on a vessel, the complete installation must be tested in the presence of a marine inspector to a head not less than that to which the tank may be subjected in service. Fuel may be used as the testing medium.

(3) All tanks not vented to the atmosphere must be constructed and tested in accordance with § 182.330 of this part.

(d) *Alternative procedures.* A gasoline powered vessel of not more than 65 feet in length carrying not more than 12 passengers, with independent gasoline fuel tanks built in accordance with ABYC Project H–24 or 33 CFR Part 183, Subpart J, or with independent diesel fuel tanks built in accordance with ABYC Project H–33 will be considered as meeting the requirements of this section.

§ 182.445 Fill and sounding pipes for fuel tanks.

(a) Fill pipes for fuel tanks must be not less than 1½ inches nominal pipe size.

(b) There must be a means of accurately determining the amount of fuel in each fuel tank either by sounding, through a separate sounding pipe or a fill pipe, or by an installed marine type fuel gauge.

(c) Where sounding pipes are used, their openings must be at least as high as the opening of the fill pipe and they must be kept closed at all times except during sounding.

(d) Fill pipes and sounding pipes must be so arranged that overflow of liquid or vapor cannot escape to the inside of the vessel.

(e) Fill pipes and sounding pipes must run as directly as possible, preferably in a straight line, from the deck connection to the top of the tank. Such pipes must terminate on the weather deck and must be fitted with shutoff valves, watertight deck plates, or screw caps, suitably marked for identification. Gasoline fill pipes and sounding pipes must extend to within one-half of their diameter from the bottom of the tank. Diesel fill pipes and sounding pipes may terminate at the top of the tank.

(f) A vessel of not more than 65 feet carrying not more than 12 passengers, with a gasoline fuel system built in accordance with ABYC Project H–24 or 33 CFR Part 183, Subpart J, or with a diesel fuel system built in accordance with ABYC Project H–33 will be considered as meeting the requirements of this section.

(g) Where a flexible fill pipe section is necessary, suitable flexible tubing or hose having high resistance to salt water, petroleum oils, heat and vibration, may be used. Such hose must overlap metallic pipe ends at least 1½ times the pipe diameter and must be secured at each end by two clamps of corrosion resistant metal. Clamps depending solely on the spring tension of the metal must not be used. The flexible section must be accessible and as near the upper end of the fill pipe as practicable. When the flexible section is a nonconductor of electricity, the metallic sections of the fill pipe separated thereby must be joined by a conductor for protection against static spark when filling.

§ 182.450 Vent pipes for fuel tanks.

(a) Each fuel tank must be fitted with a vent pipe connected to the highest point of the tank.

(b) The net cross-sectional area of the vent pipe for gasoline fuel tanks must be not less than that of ¾ inch O.D. tubing (0.035 inch wall thickness, 20 gauge), except that, where provision is made to fill the tanks under pressure, the net cross-sectional area of the vent pipe must be not less than that of the fill pipe.

(c) The minimum net cross-sectional area of the vent pipe for diesel fuel tanks must be as follows:

(1) Not less than the cross-sectional area of ⅝ inch O.D. tubing (0.035-inch wall thickness, 20 gauge), if the fill pipe terminates at the top of the tank;

(2) Not less than the cross-sectional area of ¾ inch O.D. tubing (0.035-inch wall thickness, 20 gauge), if the fill pipe extends into the tank; and

(3) Not less than the cross-sectional area of the fill pipe if provision is made to fill the tank under pressure.

(d) The discharge ends of fuel tank vent pipes must terminate on the hull exterior as high above the waterline as practicable and remote from any hull openings, or they must terminate in U-bends as high above the weather deck as practicable and as far as practicable from openings into any enclosed spaces. Vent pipes terminating on the hull exterior must be installed or equipped to prevent the accidental contamination of the fuel by water under normal operating conditions.

(e) The discharge ends of fuel tank vent pipes must be fitted with removable flame screens or flame arresters. The flame screens must consist of a single screen of corrosion resistant wire of at least 30x30 mesh. The flame screens or flame arresters must be of such size and design as to prevent reduction in the net cross-sectional area of the vent pipe and

permit cleaning or renewal of the flame screens or arrester elements.

(f) A vessel of not more than 65 feet in length carrying not more than 12 passengers, with fuel gasoline tank vents built in accordance with ABYC Project H–24, or 33 CFR Part 183, Subpart J, or with diesel fuel tank vents built in accordance with ABYC Project H–33 will be considered as meeting the requirements of this section.

(g) Where a flexible vent pipe section is necessary, suitable flexible tubing or hose having high resistance to salt water, petroleum oils, heat and vibration, may be used. Such hose must overlap metallic pipe ends at least 1½ times the pipe diameter and must be secured at each end by two clamps of corrosion resistant metal. Clamps depending solely on the spring tension of the metal must not be used. The flexible section must be accessible and as near the upper end of the vent pipe as practicable.

§ 182.455 Fuel piping.

(a) *Materials and workmanship.* The materials and construction of fuel lines, including pipe, tube, and hose, must comply with the requirements of this paragraph.

(1) Fuel lines must be annealed tubing of copper, nickel-copper, or copper-nickel having a minimum wall thickness of 0.035 inch except that:

(i) Diesel fuel piping of other materials such as seamless steel pipe or tubing which provides equivalent safety may be used;

(ii) Diesel fuel piping of aluminum is acceptable on aluminum hull vessels provided it is installed outside the machinery space and is a minimum of Schedule 80 wall thickness; and

(iii) Flexible hose may be used for the purpose of flexibility in accordance with the provisions of paragraph (a)(2) this section.

(2) Flexible hose must comply with the following requirements:

(i) Flexible hose may only be used in lengths of not more than 30 inches, at a pressure not to exceed the manufacturer's rating;

(ii) Flexible hose runs must be visible, easily accessible, and must not penetrate watertight bulkheads;

(iii) Flexible hose must be fabricated with an inner tube and a cover of synthetic rubber or other suitable material reinforced with wire braid;

(iv) Flexible hose must be provided with suitable compression type connection fittings and have a high resistance to saltwater, petroleum oils, and vibration;

(v) A flexible hose assembly must meet SAE Standard J1942 or be specifically approved by the Commandant;

(vi) USCG Type A1, A2, B1, or B2 flexible hose may be accepted in accordance with 33 CFR Part 183, Subpart J, for applications subject to operating pressures of not more than 5 psi;

(vii) Flexible hose used for alcohol-gasoline blend fuels must meet the permeability requirements specified in 33 CFR Part 183, Subpart J; and

(viii) Flexible hose designed for use with hose clamps must be installed with two clamps, at both ends of the hose, which:

(A) Do not rely on the spring tension of the clamp for compressive force; and

(B) Are installed beyond the bead or flare or over the serrations of the mating spud, pipe, or hose fitting.

(3) Tubing connections and fittings must be of nonferrous drawn or forged metal of the flared type except that flareless fittings of the nonbite type may be used when the tubing system is of nickel-copper or copper-nickel. When making tube connections, the tubing must be cut square and flared by suitable tools. Tube ends must be annealed before flaring.

(4) Cocks are prohibited except for the solid bottom type with tapered plugs and union bonnets.

(5) Valves for gasoline fuel lines must be of a suitable nonferrous type.

(b) *Installation.* The installation of fuel lines, including pipe, tube, and hose, must comply with the requirements of this paragraph.

(1) Gasoline fuel lines must be connected at the top of the fuel tank and run at or above the level of the tank top to a point as close to the engine connection as practicable except that lines below the level of the tank top are permitted if equipped with anti-siphon protection.

(2) Diesel fuel lines may be connected to the fuel tank at or near the bottom of the tank.

(3) Fuel lines must be accessible, protected from mechanical injury, and effectively secured against excessive movement and vibration by the use of soft nonferrous metal straps which have no sharp edges and are insulated to protect against corrosion. Where passing through bulkheads, fuel lines must be protected by close fitting ferrules or stuffing boxes. All fuel lines and fittings must be accessible for inspection.

(4) Shutoff valves, installed so as to close against the fuel flow, must be fitted in the fuel supply lines, one at the tank connection and one at the engine end of the fuel line to stop fuel flow when servicing accessories. The shutoff valve at the tank must be operable from outside the tank compartment, preferably from an accessible position on the weather deck.

(5) A loop of copper tubing or a short length of flexible hose must be installed in the fuel supply line at or near the engines. The flexible hose must meet the requirements of paragraph (a)(2) of this section.

(6) Fuel injector pipes on dynamically supported craft must be positioned or screened to avoid fuel impingement on hot surfaces in the event of leakage or fracture of the pipe. Where this is not practicable, the Officer in Charge, Marine Inspection, may require the installation of double-walled fuel injection pipes which are designed to ensure that any leakage is safely drained.

(7) A suitable metal marine type strainer, meeting the requirements of the engine manufacturer, must be fitted in the fuel supply line in the engine compartment. Strainers must be leak free. Strainers must be of the type opening on top for cleaning screens. A drip pan fitted with flame screen must be installed under gasoline strainers. Fuel filter and strainer bowls must be highly resistant to shattering due to mechanical impact and resistant to failure due to thermal shock. Fuel filters fitted with plastic bowls must be approved by the Commandant, protected from mechanical damage, and fitted with a flame shield.

(8) All accessories installed in the fuel line must be independently supported.

(9) Outlets in gasoline fuel lines which would permit drawing fuel below deck, for any purpose, are prohibited.

(10) Valves for removing water or impurities from diesel fuel in watertraps or strainers are permitted. These valves must be provided with caps or plugs to prevent fuel leakage.

(11) Where a fuel return line is necessary and engine fuel is supplied by more than one tank, a fuel return line must be provided for each tank. Where valves are used in the return line they must have a positive means of control so that they cannot be inadvertently secured against the fuel return.

(c) *Alternative procedures.* A gasoline powered vessel of not more than 65 feet carrying not more than 12 passengers, with a fuel system built in accordance with ABYC Project H–24 or 33 CFR Part 183, Subpart J, or a diesel powered vessel of not more than 65 feet in length carrying not more than 12 passengers, with a fuel system built in accordance with ABYC Project H–33, will be considered as meeting the requirements of this section.

§ 182.458 Portable fuel systems.

(a) Portable fuel systems, including portable tanks and related fuel lines and accessories, are prohibited except where used for outboard motor installations.

(b) The design, construction and stowage of portable tanks and related fuel lines and accessories must meet the requirements of ABYC Project H–25, "Portable Fuel Systems for Flammable Liquids."

§ 182.460 Ventilation of spaces containing gasoline machinery or fuel tanks.

(a) A space containing gasoline machinery or fuel tanks must have a ventilation system which complies with this section and consists of:

(1) For an enclosed space:

(i) At least two natural ventilation supply ducts located at one end of the space and which extend to the lowest part of the space or to the bilge on each side of the space; and

(ii) A mechanical exhaust system consisting of at least two ventilation exhaust ducts located at the end of the space opposite from where the supply ducts are fitted, which extend to the lowest part or the bilge of the space on each side of the space, and which are led to one or more powered exhaust blowers; and

(2) For a partially enclosed space, at least one ventilation duct installed in the forepart of the space and one ventilation duct installed in the afterpart of the space, or as otherwise required by the OCMI. Ducts for partially enclosed spaces must have cowls or scoops as required by paragraph (i) of this section.

(b) A mechanical exhaust system required by paragraph (a)(1)(ii) of this section must be such as to assure the air changes as noted in Table 182.460(b) depending upon the size of the space.

TABLE 182.460(b)

Size of Space in Cubic Feet		Minutes per air change
Over—	Not over—	
0	500	2
500	1,000	3
1,000	1,500	4
1,500		5

(c) An exhaust blower motor may not be installed in a duct, and if mounted in any space required to be ventilated by this section, must be located as high above the bilge as practicable. Blower blades must be nonsparking with reference to their housings.

(d) Where a fixed gas fire extinguishing system is installed in a space, all powered exhaust blowers for the space must automatically shut down upon release of the extinguishing agent.

(e) Exhaust blower switches must be located outside of any space required to be ventilated by this section, and must be of the type interlocked with the starting switch and the ignition switch so that the blowers are started before the engine starter motor circuit or the engine ignition is energized. A red warning sign at the switch must state that the blowers must be operated prior to starting the engines for the time sufficient to insure at least one complete change of air in the space served.

(f) The area of the ventilation ducts must be sufficient to limit the air velocity to a maximum of 2,000 feet per minute. A duct may be of any shape, provided that in no case will one cross sectional dimension exceed twice the other.

(g) A duct must be so installed that ordinary collection of water in the bilge will not block vapor flow.

(h) A duct must be of rigid permanent construction, which does not allow any appreciable vapor flow except through normal openings, and made of the same material as the hull or of non-combustible material. The duct must lead as directly as possible from its intake opening to its terminus and be securely fastened and supported.

(i) A supply duct must be provided at its intake opening with a cowl or scoop having a free area not less than twice the required duct area. When the cowl or scoop is screened, the mouth area must be increased to compensate for the area of the screen wire. A cowl or scoop must be kept open at all times except when the weather is such as to endanger the vessel if the openings are not temporarily closed.

(j) Dampers may not be fitted in a supply duct.

(k) A duct opening may not be located where the natural flow of air is unduly obstructed, adjacent to possible sources of vapor ignition, or where exhaust air may be taken into a supply duct.

(l) Provision must be made for closing all supply duct cowls or scoops and exhaust duct discharge openings for a space protected by a fixed gas extinguishing system. All closure devices must be readily available and mounted in the vicinity of the vent.

(m) A vessel of not more than 65 feet in length carrying not more than 12 passengers, with ventilation installations in accordance with American Boat and Yacht Council Project H–2, "Ventilation—Gasoline Boats," or 33 CFR Subchapter S, Subpart K, "Ventilation Systems," will be considered as meeting the requirements of this section.

§ 182.465 Ventilation of spaces containing diesel machinery.

(a) A space containing diesel machinery must be fitted with adequate dripproof ventilators, trunks, louvers, etc., to provide sufficient air for proper operation of main engines and auxiliary engines.

(b) Air-cooled propulsion and auxiliary diesel engines installed below deck, as permitted by § 182.420 of this part, must be fitted with air supply ducts or piping from the weather deck. The ducts or piping must be so arranged and supported to be capable of safely sustaining stresses induced by weight and engine vibration and to minimize transfer of vibration to the supporting structure. Prior to installation of ventilation system for such engines, plans or sketches showing machinery arrangement including air supplies, exhaust stack, method of attachment of ventilation ducts to the engine, location of spark arresting mufflers and capacity of ventilation blowers must be submitted to the Officer in Charge, Marine Inspection, for approval.

(c) A space containing diesel machinery must be fitted with at least two ducts to furnish natural or powered supply and exhaust ventilation. One duct must extend to a point near the bottom of the space, and be so installed that the ordinary collection of water in the bilge will not block air flow in the duct. Where powered ventilation is installed, the duct extending near the bottom of the space must be the exhaust. The total inlet area and the total outlet area of each ventilation duct may not be less than one square inch for each foot of beam of the vessel. These minimum areas must be increased as necessary when the ducts are considered as part of the air supply to the engines.

(d) A duct must be of rigid permanent construction, which does not allow any appreciable vapor flow except through normal openings, and made of the same material as the hull or of non-combustible material. The duct must lead as directly as possible from its intake opening to its terminus and be securely fastened and supported.

(e) A supply duct must be provided with a cowl or scoop having a free area not less than twice the required duct area. When the cowl or scoop is screened, the mouth area must be increased to compensate for the area of the screen wire. A cowl or scoop must be kept open at all times except when the weather is such as to endanger the vessel if the openings are not temporarily closed.

(f) Dampers may not be fitted in a supply duct.

(g) A duct opening may not be located where the natural flow of air is unduly obstructed, adjacent to possible sources of vapor ignition, or where exhaust air may be taken into a supply duct.

(h) Provision must be made for closing all supply duct cowls or scoops and exhaust duct discharge openings for a space protected by a fixed gas extinguishing system. All closure devices must be readily available and mounted in the vicinity of the vent.

(i) A vessel of not more than 65 feet in length carrying not more than 12 passengers, with ventilation installations in accordance with American Boat and Yacht Council Project H–32, "Ventilation—Diesel Boats," will be considered as meeting the requirements of this section.

§ 182.470 Ventilation of spaces containing diesel fuel tanks.

(a) Unless provided with ventilation which complies with § 182.465 of this part, a space containing a diesel fuel tank and no machinery must meet the requirements of this paragraph.

(1) A space of 500 cubic feet or more in volume must have a gooseneck vent of not less than 2½ inches in diameter.

(2) A space of less than 500 cubic feet in volume must have a gooseneck vent of not less than 1½ inches in diameter.

(b) Vent openings may not be located adjacent to possible sources of vapor ignition.

(c) A vessel of not more than 65 feet in length carrying not more than 12 passengers, with ventilation installations in accordance with American Boat and Yacht Council Project H–32, "Ventilation—Diesel Boats," will be considered as meeting the requirements of this section.

Subpart E—Bilge and Ballast Systems

§ 182.500 General.

(a) A vessel must be provided with a satisfactory arrangement for draining any watertight compartment, other than small buoyancy compartments, under all practical conditions. Sluice valves are not permitted in watertight bulkheads.

(b) A vessel of not more than 65 feet in length carrying not more than 12 passengers may meet the requirements of American Boat and Yacht Council Project H–22 in lieu of the requirements of this subpart provided that each watertight compartment, other than small buoyancy compartments and the compartment forward of the collision bulkhead, is provided with means to dewater.

(c) A vessel of more than 65 feet in length with overnight accommodations for more than 49 passengers, and a vessel of more than 65 feet in length carrying more than 150 passengers, must meet:

(1) Section 56.50–50 of this chapter, with the exception of § 56.50–50(f), instead of § 182.510 of this subpart; and

(2) Section 56.50–55 of this chapter, disregarding Note 1 in Table 56.50–55, instead of § 182.520 of this subpart.

(d) Special consideration may be given to a vessel, such as a dynamically supported craft, that has a high degree of subdivision and utilize numerous small buoyancy compartments. Where the probability of flooding of the space is limited to external hull damage, compartment drainage may be omitted provided it can be shown by stability calculations, submitted to the OCMI, that the safety of the vessel will not be impaired.

§ 182.510 Bilge piping system.

(a) A vessel of at least 26 feet in length must be provided with individual bilge lines and bilge suctions for each watertight compartment, except that the space forward of the collision bulkhead need not be fitted with a bilge suction line when the arrangement of the vessel is such that ordinary leakage may be removed from this compartment by the use of a hand portable bilge pump or other equipment, and such equipment is provided.

(b) A bilge pipe in a vessel of not more than 65 feet in length must be not less than 1 inch nominal pipe size. A bilge pipe in a vessel of more than 65 feet in length must be not less than 1½ inches nominal pipe size. A bilge suction must be fitted with a suitable strainer having an open area not less than three times the area of the bilge pipe.

(c) Except when individual pumps are provided for separate spaces, individual bilge suction lines must be led to a central control point or manifold and provided with a stop valve at the control point or manifold and a check valve at some accessible point in the bilge line. A stop-check valve located at a control point or manifold will meet the requirements for both a stop valve and a check valve.

(d) A bilge pipe piercing the collision bulkhead must be fitted with a screw-down valve located on the forward side of the collision bulkhead and operable from the weather deck, or, if it is readily accessible under service conditions, a screw-down valve without a reach rod may be fitted to the bilge line on the after side of the collision bulkhead.

§ 182.520 Bilge pumps.

(a) A vessel must be provided with bilge pumps in accordance with Table 182.520(a).

TABLE 182.520(a)

Number of passengers	Length of vessel	Bilge pumps required	Min. capacity required per pump (gal. per minute)
Any number	More than 65 feet	2 fixed power pumps	50 GPM.
More than 49 passengers and all ferry vessels.	Not more than 65 feet	1 fixed power pump and	25 GPM.
		1 portable hand pump	10 GPM.
Not more than 49 passengers (other than ferry vessels).	26 feet up to 65 feet	1 fixed power pump and	10 GPM.
		1 portable hand pump or	5 GPM.
		1 fixed hand pump and	10 GPM.
		1 portable hand pump	5 GPM.
	Less than 26 feet	1 portable hand pump	5 GPM.

(b) A portable hand bilge pump must be:

(1) Capable of pumping water, but not necessarily simultaneously, from all watertight compartments; and

(2) Provided with suitable suction and discharge hoses capable of reaching the bilges of each watertight compartment.

(c) Each fixed power bilge pump must be self-priming. It may be driven off the main engine or other source of power. It must be permanently connected to the bilge manifold and may also be connected to the fire main. If of

sufficient capacity, a power bilge pump may also serve as a fire pump.

(d) Where two fixed power bilge pumps are installed, they must be driven by different sources of power. If one pump is driven off the main engine in a single propulsion engine installation, the other must be independently driven. In a twin propulsion engine installation, each pump may be driven off a different propulsion engine.

(e) A submersible electric bilge pump may only be use as a power bilge pump required by Table 182.520(a) on a vessel, other than a ferry, of not more than 65 feet in length, carrying not more than 49 passengers, provided that:

(1) The pump is listed by Underwriters Laboratories Inc. or another independent laboratory;

(2) The pump is used to dewater not more than one watertight compartment;

(3) The pump is permanently mounted;

(4) The pump is equipped with a strainer which can be readily inspected and cleaned without removal;

(5) The pump discharge line is suitably supported; if flexible hose is used, the hose does not penetrate any required watertight bulkheads;

(6) The opening in the hull for the pump discharge is place as high above the waterline as possible; and

(7) A positive shutoff valve is installed at the hull penetration.

(f) A flexible tube or hose may be used instead of fixed pipe for the discharge line of a submersible electric bilge pump provided the hose or tube does not pentrate any required watertight bulkheads and is:

(1) Of substantial construction suitable for the intended use; and

(2) Highly resistance to salt water, petroleum oil, heat, and vibration.

(g) If a fixed hand pump is used to comply with Table 182.520(a) of this section, it must be permanently connected to the bilge system.

(h) On a vessel of not more than 65 feet in length, a power-driven fire pump required by § 181.300 of this subchapter may serve as a fixed power bilge pump required by this subpart, provided it has the minimum flow rate required by Table 182.520(a) of this section.

(i) On a vessel of more than 65 feet in length, a power-driven fire pump required by § 181.300 of this subchapter may serve as one of the two fixed power bilge pumps required by this subpart, provided:

(1) The bilge and fire pump systems are interconnected;

(2) The dedicated bilge pump is capable of pumping the bilges at the same time the fire/bilge pump charges the firemain; and

(3) Stop valves and check valves are installed in the piping to isolate the systems during simultaneous operation and prevent possible flooding through the bilge system.

(j) A catamaran vessel must be equipped with bilge pumps for each hull, as if each hull is a separate vessel, in accordance with Table 182.520(a) of this section, except where:

(1) One primary pump is located in each hull;

(2) Each primary pump is driven by an independent source of power; and

(3) The bilge system is permanently cross-connected between hulls.

§ 182.530 Bilge level alarms.

(a) On a vessel of at least 26 feet in length, a visual and audible alarm must be provided at the operating station to indicate high bilge level in all normally unattended machinery spaces located below the deepest load waterline.

(b) A visual indicator must be provided at the operating station to indicate when any automatic bilge pump is operating.

§ 182.540 Ballast systems.

(a) Ballast piping must not be installed in any compartment integral with the hull of a wooden vessel. Where the carriage of liquid ballast in such a vessel is necessary, suitable ballast tanks, structurally independent of the hull, must be provided.

(b) Fixed ballast must comply with the requirements of Part 178 of this subchapter.

Subpart F—Steering Systems

§ 182.600 General.

(a) Except as provided in paragraph (b) of this section, a self-propelled vessel must comply with the provisions of this subpart.

(b) A vessel of more than 65 feet in length with overnight accommodations for more than 49 passengers must meet the applicable requirements for steering systems in Subchapters F and J of this chapter.

§ 182.610 Main steering gear.

(a) A vessel must be provided with a main steering gear that is:

(1) Of adequate strength and capable of steering the vessel at all service speeds;

(2) Designed to operate at maximum astern speed without being damaged or jammed; and

(3) Capable of moving the rudder from 35 degrees on one side to 30 degrees on the other side in not more than 28 seconds with the vessel moving ahead at maximum service speed.

(b) Control of the main steering gear must be provided from the operating station, including control of any necessary ancillary device (motor, pump, valve, etc.). If a power-driven main steering gear is used, a visual means to indicate operation of the power units must be provided at the operating station.

(c) The main steering gear must be designed so that transfer from the main steering gear or control to the auxiliary means of steering, required by § 182.620 of this subpart, can be achieved rapidly. Any tools or equipment necessary to make the transfer must be readily available. Instructions for transfer procedures must be posted at the location where transfer is carried out.

(d) Instantaneous short circuit protection for electrical power and control circuits, sized and located in accordance with §§ 111.93–11 (d) and (e) of this chapter, must be provided. Overload protection is prohibited.

(e) An independent rudder angle indicator must be provided at the operating station on a vessel of more than 65 feet in length which has a power-driven steering gear.

(f) A vessel that has duplicate steering gear power units, including pumps, reservoirs, motors, power circuits, piping, and valves, may use one of the power units to serve other equipment if:

(1) Controls for the other equipment are located at the operating station;

(2) Full power is available to the steering system when the other equipment is not in operation; and

(3) The other equipment can be readily isolated from the steering system, and instructions are posted at the isolation point as to procedure.

(g) The operating station must be arranged to permit the person steering to have the best possible all around vision.

(h) Power-driven steering systems must be arranged to automatically resume operation, without reset, when power is restored after a power failure.

(i) A manual means must be provided to center and steady the rudder(s) in an emergency.

(j) Strong and effective rudder stops must be provided to prevent jamming and damage to the rudder and its fittings. These stops may be structural or internal to the main steering gear. Power operated steering gear must have a means, such as a limit switch, to stop the gear before it reaches the stops. The limiting device must operate independent of the steering gear controls.

(k) Main steering gear consisting of cables, chains, rods, and similar non-hydraulic means must have buffers or

springs to relieve the steering gear of shocks to the rudder.

(l) All switches, valves, levers, and other devices for operating the steering gear must be clearly and permanently marked to show their purpose and operation.

§ 182.620 Auxiliary means of steering.

(a) Except as provided in paragraph (c) of this section, a vessel must be provided with an auxiliary means of steering that is:

(1) Of adequate strength;

(2) Capable of moving the rudder from 15 degrees on one side to 15 degrees on the other side in not more than 60 seconds with the vessel at one-half its maximum service speed ahead, or 7 knots, whichever is greater; and

(3) Controlled from a location that permits safe maneuvering of the vessel and does not expose the person operating the auxiliary means of steering to extreme danger during normal or heavy weather operation.

(b) A suitable hand tiller may be acceptable as the auxiliary means of steering where satisfactory to the Officer in Charge, Marine Inspection.

(c) An auxiliary means of steering need not be provided if:

(1) The main steering gear and its controls are provided in duplicate;

(2) Multiple screw propulsion, with independent pilothouse control for each screw, is provided, and the vessel is capable of being steered using pilothouse control;

(3) No regular rudder is fitted and steering action is obtained by a change of setting of the propelling unit; or

(4) Where a rudder and hand tiller are the main steering gear.

§ 182.630 Special provisions for dynamically supported craft.

(a) In the displacement mode, a dynamically supported craft must comply with §§ 182.600 through 182.620 of this subpart or be provided with equivalent vessel control to the satisfaction of the Officer in Charge, Marine Inspection.

(b) Means to override any remote or automatic controls associated with the dynamically supported mode, and necessary for steering in the displacement mode, must be provided.

(c) Failure of power systems or control systems associated with steering in the dynamically supported mode must be visually and audibly alarmed at the operating station.

(d) To the greatest extent practicable, single failures in the steering system or other directional control systems on a DSC must not cause unsafe or uncontrolled reversion to the displacement mode.

Subpart G—Piping Systems

§ 182.700 General.

Materials used in piping systems must meet the requirements of this subpart and be otherwise acceptable to the Officer in Charge, Marine Inspection.

§ 182.710 Piping for vital systems.

(a) Vital systems are those systems which are vital to a vessel's survivability and safety. For the purpose of this part the following are vital systems:

(1) Fuel system;

(2) Fire main, CO_2, and Halon system.

(3) Bilge system;

(4) Steering system;

(5) Propulsion system and its necessary auxiliaries and controls;

(6) Ship's service and emergency electrical generation system and its necessary auxiliaries; and

(7) A marine engineering system identified by the Officer in Charge, Marine Inspection, as being crucial to the survival of the vessel or to the protection of the personnel on board.

(b) For the purpose of this part, a system not identified in paragraph (a) of this section is a non-vital system.

(c) Piping used in a vital system on a vessel of more than 65 feet in length with overnight accommodations for more than 49 passengers, or on a vessel carrying more than 150 passengers, must meet Subpart 56.60 of this chapter.

(d) Piping used in a vital system on a vessel, other than a vessel to which paragraph (c) of this section applies, must:

(1) Be composed of ferrous materials except when:

(i) Nonmetallic piping materials are permitted by § 182.720 of this subpart; or

(ii) Nonferrous metallic piping materials are permitted by § 182.730 of this subpart; and

(2) If subject to a pressure of more than 150 psi, be designed, fabricated, and inspected in accordance with the principles of ANSI B31.1 or other industry standard acceptable to the Commandant.

§ 182.715 Piping subject to more than 150 psi in non-vital systems.

Piping subject to more than 150 psi in a non-vital system must be designed, fabricated, and inspected in accordance with the principles of ANSI B31.1 or other industry standard acceptable to the Commandant.

§ 182.720 Nonmetallic piping materials.

(a) Nonmetallic piping materials on a vessel of more than 65 feet in length with overnight accommodations for more than 49 passengers, or carrying more than 150 passengers, must meet the requirements of § 56.60-25 of this chapter. On all other vessels rigid nonmetallic materials may be used only in non-vital systems and in accordance with paragraphs (b) and (c) of this section. Flexible nonmetallic materials may be used in pneumatic control systems.

(b) Nonmetallic piping must not be used in gasoline or diesel fuel systems. Flexible nonmetallic hose may be used where permitted by § 182.455 of this part.

(c) Where rigid nonmetallic material is permitted for use in piping systems by this section, the restrictions in this paragraph apply.

(1) Penetrations of required watertight decks and bulkheads by any rigid plastic pipe are prohibited, except when each penetration is accomplished using an acceptable metallic fitting, welded or otherwise attached to the bulkhead or deck by an accepted method and one or more metallic shutoff valves are installed adjacent to the through deck or through bulkhead fitting.

(2) If only one metallic shutoff value is installed it must be operable from above the bulkhead deck. If two valves are installed, one on either side of the bulkhead, the valves need not be operable from above the bulkhead deck provided immediate access to both is possible. Where both plastic and metallic pipes are used in a bulkhead penetrating system and where the two materials exist entirely on opposite sides of the bulkhead, a shutoff valve must be installed at the bulkhead in the metallic part of the system with the valve being capable of operation from above the bulkhead deck or locally if immediate access is possible.

(3) Protection from mechanical damage must be specifically considered and all protective covering or shields must be installed to the satisfaction of the Officer in Charge, Marine Inspection.

(4) Through hull fittings and shutoff valves must be metallic. In the case of nonmetallic hulls, materials which will afford an equal degree of safety and heat resistivity as that afforded by the hull may be approved.

(5) The material specification must show that the rigid nonmetallic material possesses characteristics adequate for its intended service and environment and must be approved for use by the Officer in Charge, Marine Inspection.

§ 182.730 Nonferrous metallic piping materials.

(a) Nonferrous metallic piping materials are acceptable for use in the following:

(1) Non-vital systems;

(2) Aluminum fuel piping, if of a minimum of schedule 80 wall thickness on an aluminum hulled vessel and located outside the machinery space;

(3) Aluminum bilge, ballast, and firemain piping on an aluminum hulled vessel; and

(4) Other uses specifically accepted by the Officer in Charge, Marine Inspection.

(b) Where nonferrous metallic material is permitted for use in piping systems by this subpart, the restrictions in this paragraph apply:

(1) Provisions must be made to protect piping systems using aluminum alloys in high risk fire areas due to the low melting point of aluminum alloys.

(2) Provisions must be made to prevent or mitigate the effect of galvanic corrosion due to the relative solution potentials of copper and aluminum and their alloys, when used in conjunction with each other, with steel, or with other metals and their alloys, when an electrolyte is present.

(3) A suitable thread compound must be used in making up threaded joints in aluminum pipe to prevent seizing. Pipe in the annealed temper must not be threaded;

(4) The use of alloys with a copper content exceeding 0.6 percent is prohibited.

(5) The use of cast aluminum alloys in hydraulic fluid power systems must be in accordance with the requirements of § 58.30-15(e) of this chapter.

PART 183—ELECTRICAL INSTALLATIONS

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Authority: 46 U.S.C. 2104, 3306; 49 CFR 1.46.

Subpart A—General Provisions

§ 183.100 Intent.

This part contains requirements for the design, construction, installation, and operation of electrical equipment and systems including power sources, lighting, motors, miscellaneous equipment, and safety systems.

§ 183.115 Applicability to existing vessels.

(a) Except as otherwise required by paragraph (b) of this section, an existing vessel must comply with the regulations in this part or with the regulations on electrical installations, equipment, and material applicable to the vessel [insert date of the day before the effective date of regulations] and the following specific sections of this part: §§ 183.420 and 183.430.

(b) On an existing vessel, new installations of electrical equipment and material, and the repair of cable and wire, that are completed to the satisfaction of the cognizant OCMI on or after [insert effective date of regulations] must comply with this part.

§ 183.130 Alternative standards.

(a) A vessel, other than a dynamically supported craft, of not more than 65 feet in length carrying not more than 12 passengers, may comply with the following requirements instead of complying with the requirements of this part in their entirety:

(1) Section 183.420 of this part; and

(2) The following American Boat and Yacht Council Inc. (ABYC) Projects where applicable:

(i) E–1, Bonding of Direct Current Systems;

(ii) E–8, AC Electrical Systems on Boats;

(iii) E–9, DC Electrical Systems on Boats; and

(iv) A–16, Electric Navigation Lights.

(b) A vessel with an electrical installation operating at less than 50 volts may meet 33 CFR 183.430 instead of § 183.340 of this part.

Subpart B—General Requirements

§ 183.200 General design, installation, and maintenance requirements.

Electrical equipment on a vessel must be installed and maintained to:

(a) Provide services necessary for safety under normal and emergency conditions;

(b) Protect passengers, crew, other persons, and the vessel from electrical hazards, including fire, caused by or originating in electrical equipment, and electrical shock;

(c) Minimize accidental personnel contact with energized parts; and

(d) Prevent electrical ignition of flammable vapors.

§ 183.210 Protection from wet and corrosive environments.

(a) Electrical equipment used in one of the following locations must be dripproof:

(1) A machinery space;

(2) A location normally exposed to splashing, water washdown, or other wet conditions within a galley, a laundry, or a public washroom or toilet room that has a bath or shower; or

(3) Another space with a similar moisture level.

(b) Electrical equipment exposed to the weather must be watertight.

(c) Electrical equipment exposed to salt water must be corrosion-resistant.

§ 183.220 General safety provisions.

(a) Electrical equipment and installations must be suitable for the roll, pitch, and vibration of the vessel underway.

(b) All equipment, including switches, fuses, lampholders, etc., must be suitable for the voltage utilized.

(c) Receptacle outlets of the type providing a grounded pole or a specific direct current polarity must be of a configuration that will not permit improper connection.

(d) All electrical equipment and circuits must be clearly marked and identified.

(e) Any cabinet, panel, box, or other enclosure containing more than one source of power must be fitted with a sign warning persons of this condition and identifying the circuits to be disconnected.

Subpart C—Power Sources and Distribution Systems

§ 183.310 Power sources.

(a)(1) Each vessel that relies on electricity to power the following loads must have at least two sources of electricity to power these loads:

(i) The vital systems listed in § 182.710 of this subchapter;

(ii) Interior lighting except for decorative lights;

(iii) Steering systems;

(iv) Communication systems including a required public address system;

(v) Navigation equipment and lights;

(vi) Fire protection equipment; and

(vii) Bilge pumps.

(2) Except as provided in § 183.312 of this part, a vessel with batteries of adequate capacity and a generator or alternator, driven by a propulsion engine, complies with the requirement in paragraph (a)(1) of this section.

(b) Where a generator driven by a propulsion engine is utilized as a source of electrical power, a vessel speed change or throttle movement must not interrupt power to any ship's service load.

§ 183.312 Power sources on vessels more than 65 feet in length with overnight accommodations for more than 49 passengers.

A vessel of more than 65 feet in length with overnight accommodations for more than 49 passengers must have:

(a) An electrical power supply which complies with the requirements of Subpart 111.10 of this chapter; and

(b) A final emergency power source with sufficient capacity to power the loads listed in § 112.15–5 of this chapter.

§ 183.320 Generators and motors.

(a) Each generator and motor must be:

(1) In a location that is accessible, adequately ventilated, and as dry as practicable; and

(2) Mounted above the bilges to avoid damage by splash and to avoid contact with low lying vapors.

(b) Each generator and motor must be designed for an ambient temperature of 50 °C (122 °F) except that:

(1) If the ambient temperature in the space where a generator or motor will be located will not exceed 40 °C under normal operating conditions, the generator or motor may be designed for an ambient temperature of 40 °C; and

(2) A generator or motor designed for 40 °C may be used in 50 °C ambient locations provided the generator or motor is derated to 80 percent of the full load rating, and the rating or setting of the overcurrent devices is reduced accordingly.

(c) A voltmeter and an ammeter, which can be used for measuring voltage and current of a generator that is in operation, must be provided for a generator rated at 50 volts or more. For each alternating-current generator, a means for measuring frequency must also be provided. Additional control equipment and measuring instruments must be provided, if needed, to ensure satisfactory operation of each generator.

(d) Each generator and motor on a vessel of not more than 65 feet in length must have a nameplate attached to it indicating:

(1) The manufacturer's name;

(2) Its rating in volts and amperes or volts and watts;

(3) When intended for connection in a normally grounded configuration, the grounding polarity; and

(4) For a generator or motor derated in accordance with paragraph (b)(2) of this section, the derated capacity.

(e) Each generator on a vessel of more than 65 feet in length must have a nameplate attached to it indicating:

(1) The manufacturer's name, generator type, and frame designation;

(2) Output in kilowatts or horsepower rating;

(3) Kind of rating (continuous, overload, etc.);

(4) Amperes at rated load, voltage, and frequency;

(5) Number of phases, if applicable;

(6) Type of winding (DC);

(7) When intended for connection in a normally grounded configuration, the grounding polarity; and

(8) For a generator derated in accordance with paragraph (b)(2) of this section, the derated capacity.

(f) Each motor on a vessel of more than 65 feet in length must have a nameplate attached to it containing the information required by Article 430 of NFPA 70, "National Electrical Code."

§ 183.322 Multiple generators.

When a vessel uses two or more generators to supply ship's service loads, as required by § 183.310(a) of this part, the following requirements must be met:

(a) Each generator must have an independent power source; and

(b) The generator circuit breakers must be interlocked to prevent the generators from being simultaneously connected to the switchboard except for the circuit breakers of a generator operated in parallel with another generator when the installation meets §§ 111.05–13, 111.12–11(f), 111.30–19(a), and 111.30–25(d) of this chapter.

§ 183.324 Dual-voltage generators.

When a dual-voltage generator is installed on a vessel:

(a) The neutral of a dual-voltage system must be solidly grounded at the switchboard and be accessible for checking the insulation resistance of the generator to ground before the generator is connected to the bus; and

(b) Ground detection must be provided that:

(1) For an alternating current system, meets § 111.05–27 of this chapter; and

(2) For a direct current system, meets § 111.05–29 of this chapter.

§ 183.330 Distribution panels and switchboards.

(a) Each distribution panel and switchboard must be in as dry a location as practicable, accessible, adequately ventilated, and protected from falling debris and dripping or splashing water.

(b) Each distribution panel or switchboard must be totally enclosed and of the dead front type.

(c) Each switchboard must have non-conductive handrails.

(d) Each switchboard must be fitted with a dripshield.

(e) Distribution panels and switchboards which are accessible from the rear must be protected to prevent a person from accidentally contacting energized parts.

(f) Working space must be provided in front of each main distribution panel and switchboard and in the rear of each main distribution panel and switchboard that is accessible from the rear.

(g) Non-conducting mats or grating must be provided on the deck in front of each switchboard and, if accessible from the rear, on the deck in the rear of the switchboard.

(h) All uninsulated current-carrying parts must be mounted on noncombustible, non-absorbent, high-dielectric insulating material.

(i) Equipment mounted on a hinged door of an enclosure must be constructed or shielded so that a person will not accidentally contact live parts of the door mounted equipment when the door is open and the circuit energized.

(j) Switchboards and distribution panels must be adequately sized for the expected loads.

§ 183.340 Cable and wiring requirements.

(a) Wire, when used in systems greater than 50 volts, must be in a

conduit or other enclosure. Conduit used to protect wire shall have drain holes to prevent the build up of condensation.

(b) All cable and wire must:

(1) Have stranded copper conductors with sufficient current-carrying capacity for the circuit in which they are used;

(2) Be installed in a manner to avoid or reduce interference with radio reception and compass indication;

(3) Be protected from the weather;

(4) Be supported in such a manner as to avoid chafing or other damage;

(5) Not be installed with sharp bends;

(6) Be protected by metal coverings or other suitable means if in areas subject to mechanical abuse;

(7) Be suitable for low temperature and high humidity if installed in refrigerated compartments;

(8) Not be located in a tank unless the cable provides power to equipment in the tank; and

(9) Have sheathing or wire insulation compatible with the fluid in a tank when installed in compliance with paragraph (b)(8) of this section.

(c) Conductors in power and lighting circuits must be No. 14 AWG or larger. Conductors in control and indicator circuits must be No. 22 AWG or larger.

(d) Cable and wire for power and lighting circuits must:

(1) Meet Section 310–13 of the NFPA Publication No. 70, "National Electrical Code," except that asbestos insulated cable and dry location cables can not be used;

(2) Be listed by Underwriters Laboratories Inc. as UL Boat or UL Marine cable; or

(3) Meet §111.60 of this chapter.

(e) Cable or wire serving vital systems listed in § 182.710 of this subchapter or emergency loads must be routed as far as practicable from high risk fire areas such as galleys, laundries, and machinery spaces.

(f) Cable or wire serving duplicated equipment must be separated so that a casualty that affects one cable does not affect the other.

(g) Each connection to a conductor or terminal part of a conductor that is larger than No. 10 AWG must be made within an enclosure and have:

(1) A pressure-type connector on each conductor;

(2) A solder lug on each conductor;

(3) A splice made with a pressure-type connector to a flexible lead or conductor; or

(4) A splice that is soldered, brazed, or welded to a flexible lead or conductor.

(h) Each connection to a conductor or a terminal part of a conductor that is No. 10 AWG or smaller must be made within an enclosure and:

(1) Meet paragraph (g) of this section; or

(2) Have clamps or screws with terminal plates that have turned lugs or other suitable means to capture the terminal.

(i) A connector or lug of the set screw type must not be used with a stranded conductor smaller than No. 14 AWG except if there is a non-rotating follower that travels with the set screw and makes pressure contact with the conductor.

(j) Each pressure-type wire connector and lug must meet UL 486A.

(k) Each terminal block must have 6–32 terminal screws or larger.

(l) Wire connectors utilized in conjunction with screw-type terminal blocks must be of the captive type such as the ring or the flanged spade type.

(m) A cable must not be spliced in:

(1) A hazardous location; or

(2) In another location except:

(i) A cable installed in a subassembly may be spliced to a cable installed in another subassembly;

(ii) For a vessel receiving alterations, a cable may be spliced to extend a circuit;

(iii) A cable having a large size or exceptional length may be spliced to facilitate its installation; and

(iv) A cable may be spliced to replace a damaged section of the cable if, before replacing the damaged section, the insulation resistance of the remainder of the cable is measured, and it is determined that the condition of the insulation is unimpaired.

(n) All material in a cable splice must be chemically compatible with all other material in the splice and with the materials in the cable.

(o) Ampacities for conductors must meet Section 310–15 of NFPA 70, "National Electrical Code," or IEEE Standard 45, as appropriate.

(p) Conductors must be sized so that the voltage drop at the load terminals does not exceed 10 percent.

(q) Each armored cable metallic covering must:

(1) Be electrically continuous; and

(2) Be grounded at each end of the run to:

(i) The metallic hull; or

(ii) The common ground plate on nonmetallic vessels; and

(3) Have final sub-circuits grounded at the supply end only.

(r) A portable or temporary electric cord or cable must be constructed and used in compliance with the requirements of § 111.60–13 of this chapter for a flexible electric cord or cable.

§ 183.350 Batteries, general.

(a) Where provisions are made for charging batteries, there must be natural or induced ventilation to dissipate the gases generated.

(b) Each battery must be located as high above the bilge as practicable and be secured to protect against shifting with the roll and pitch of the vessel.

(c) Batteries must have free space above them for accessibility and removal.

(d) Connections must be made to battery terminals with permanent type connectors. Spring clips or other temporary type clamps are prohibited.

(e) Batteries must be mounted in trays lined with, or constructed of, lead or other material which is resistant to damage by the electrolyte.

(f) Battery chargers must have an ammeter connected in the charging circuit.

(g) If the batteries are not adjacent to a distribution panel or switchboard which distributes power to the lighting, motor, and appliance circuits, the battery lead must be fused at the battery.

§ 183.352 Battery categories.

(a) *Large.* A large battery installation is one connected to a battery charger having an output of more than 2 kw computed from the highest possible charging current and the rated voltage of the battery installation.

(b) *Moderate.* A moderate battery installation is one connected to a battery charger having an output of between 0.2 kw and 2 kw computed from the highest possible charging current and the rated voltage of the battery installation.

(c) *Small.* A small battery installation is one connected to a battery charger having an output of less than 0.2 kw computed from the highest possible charging current and the rated voltage of the battery installation.

§ 183.354 Battery installations.

(a) *Large batteries.* Each large battery installation must be in a room used only for batteries or in a box on deck. Electric equipment in a battery room must be approved by an independent laboratory for Class I, Division 1, Group B hazardous locations and meet subpart 111.105 of this chapter.

(b) *Moderate batteries.* Each moderate battery installation must be in a room used only for batteries, in a box on deck, or in a box or locker in another space which is well ventilated and protected from falling objects.

(c) *Small batteries.* Each small battery installation must be located in a well

ventilated space and protected from falling objects. A small battery installation must not be in a closet, storeroom, or similar space.

§ 183.360 Semiconductor rectifier systems.

(a) Each semiconductor rectifier system must have an adequate heat-removal system that prevents overheating.

(b) Where a semiconductor rectifier system is used in a propulsion system or in other vital systems it must:

(1) Have a current limiting circuit;

(2) Have external overcurrent protection; and

(3) Meet Section 35.84.4 of the American Bureau of Shipping's "Rules for Building and Classing Steel Vessels."

§ 183.370 System and equipment grounding.

(a) All metallic enclosures and frames of electrical equipment must be permanently grounded to the hull on a metallic vessel. On a nonmetallic vessel the enclosures and frames of electrical equipment must be bonded together to a common ground by a normally non-current-carrying conductor. Metallic cases of instruments and secondary windings of instrument transformers must be grounded.

(b) If a grounded distribution system is provided, there must be only one connection to ground, regardless of the number of power sources. This ground connection must be at the switchboard or at the common ground plate, which must be accessible.

(c) On a nonmetallic vessel where a ground plate is provided for radio equipment, it must be connected to the common ground.

(d) On a metallic vessel a grounded alternating-current system must be grounded to the hull. On a nonmetallic vessel the neutral must be connected to the common ground.

(e) Equipment grounding conductors must be sized in accordance with Section 250–95 of the NFPA 70, "National Electrical Code."

(f) Each insulated grounding conductor of a cable must be identified by one of the following means:

(1) A green braid or green insulation;

(2) Stripping the insulation from the entire exposed length of the grounding conductor; or

(3) Marking the exposed insulation of the grounding conductor with green tape or green adhesive labels.

(g) A vessel's hull must not carry current as a conductor except for the following systems:

(1) Impressed current cathodic protection systems; or

(2) Battery systems for engine starting.

(h) Cable armor must not be used to ground electrical equipment or systems.

(i) Receptacle outlets and attachment plugs for portable lamps, tools, and similar apparatus operating at 100 volts or more, must have a grounding pole and a grounding conductor in the portable cord.

(j) Each nonmetallic mast and top mast must have a lightning ground conductor.

§ 183.380 Overcurrent protection.

(a) Overcurrent protection must be provided for each ungrounded conductor for the purpose of opening the electric circuit if the current reaches a value that causes an excessive or dangerous temperature in the conductor or conductor insulation.

(b) A conductor of a control, interlock, or indicator circuit, such as a conductor for an instrument, pilot light, ground detector light, or potential transformer, must be protected by an overcurrent device.

(c) Each generator must be protected by an overcurrent device set at a value not exceeding 115 percent of the generator full-load rating.

(d) All circuits other than steering system circuits must be protected against both overload and short circuit.

(e) Each steering gear feeder circuit must be protected by a circuit breaker that meets the requirements of § 111.93–11 (d) and (e) of this chapter.

(f) Each lighting branch circuit must be protected against overcurrent either by fuses or circuit breakers rated at not more than 30 amperes.

(g) Conductors must be protected in accordance with their current-carrying capacities. If the allowable current-carrying capacity does not correspond to a standard device size, the next larger overcurrent device may be used provided it does not exceed 150% of the conductor current-carrying capacity.

(h) Overcurrent devices must be installed to protect motor conductors and control apparatus against overcurrent due to short circuits or ground faults. These devices must be capable of carrying the starting current of the motor.

(i) An emergency switch must be provided in the normally ungrounded main supply conductor from a battery. The switch must be located as close to the battery as practicable.

(j) The grounded conductor of a circuit must not be disconnected by a switch or circuit breaker, unless the ungrounded conductors are simultaneously disconnected.

(k) Disconnect means must be provided on the supply side of and adjacent to all fuses for the purpose of de-energizing the fuses for inspection and maintenance purposes.

(l) If the disconnect means is not within sight of the equipment that the circuit supplies, means must be provided for locking the disconnect device in the open position.

(m) Fuses must be of the cartridge type only and be listed by Underwriters Laboratories or another independent laboratory.

(n) Each circuit breaker must meet UL 489 and be of the manually reset type designed for:

(1) Inverse time delay;

(2) Instantaneous short circuit protection; and

(3) Switching duty if the breaker is used as a switch.

(o) Each circuit breaker must indicate whether it is in the open or closed position.

§ 183.390 Shore power.

A vessel with an electrical system operating at more than 50 volts, which has provision for shore power, must meet the following:

(a) A shore power connection box or receptacle must be permanently installed at a convenient location;

(b) A cable connecting the shore power connection box or receptacle to the switchboard or main distribution panel must be permanently installed;

(c) A circuit breaker must be provided at the switchboard or main distribution panel for the shore power connection; and

(d) The circuit breaker, required by paragraph (c) of this section, must be interlocked with the vessel's power sources so that shore power and the vessel's power sources may not be operated simultaneously.

§ 183.392 Radiotelephone installations.

A separate circuit, with overcurrent protection at the main distribution panel, must be provided for each radiotelephone installation.

Subpart D—Lighting Systems

§ 183.410 Lighting fixtures.

(a) Each lighting fixture globe, lens, or diffuser must have a high strength guard or be made of high strength material, except in an accommodation space, radio room, galley, or similar space where it is not subject to damage.

(b) A lighting fixture may not be used as a connection box for a circuit other than the branch circuit supplying the fixture.

(c) A lighting fixture must be installed as follows:

(1) Each fixture must comply with § 183.200 of this part.

(2) Each lighting fixture and lampholder must be fixed. A fixture must not be supported by the screw shell of a lampholder.

(3) Each pendant-type lighting fixture must be suspended by and supplied through a threaded, rigid conduit stem.

(4) Each tablelamp, desklamp, floorlamp, or similar equipment must be secured in place so that it cannot be displaced by the roll or pitch of the vessel.

(d) A lighting fixture in an electrical system operating at more than 50 volts must comply with the requirements of UL 595.

§ 183.420 Navigation lights.

(a) A vessel of not more than 65 feet in length must have navigation lights that are in compliance with the applicable navigation rules except that the OCMI may exempt a vessel, which is restricted to operating on a short, restricted route from sunrise to sunset in good visibility, from this requirement.

(b) A vessel of more than 65 feet in length must have navigation lights that are in compliance with § 111.75–17(d) of this chapter except that the OCMI may exempt a vessel, which is restricted to operating on a short, restricted route from sunrise to sunset in good visibility, from this requirement.

§ 183.430 Portable lights.

Each vessel must be equipped with at least two portable battery lights. One of these lights must be located at the operating station and the other at the access to the propulsion machinery space.

§ 183.432 Emergency lighting.

(a) A vessel of not more than 65 feet in length must have adequate emergency lighting fitted along the line of escape to the main deck from all passenger accommodation spaces located below the main deck.

(b) A vessel of more than 65 feet in length, and a dynamically supported craft, must have adequate emergency lighting for passageways, stairways, and escape trunks in passenger accommodation spaces, crew accommodation spaces, machinery spaces, and all other spaces which may be routinely occupied by persons. The emergency lighting must be sufficient to allow passengers and crew to find their way to open decks.

(c) The emergency lighting required by paragraphs (a) and (b) of this section must automatically actuate upon failure of the main lighting system. If a vessel is not equipped with a single source of power for emergency lighting, it must have individual battery powered lights which:

(1) Are automatically actuated upon loss of normal power;

(2) Are not readily portable;

(3) Are connected to an automatic battery charger; and

(4) Have sufficient capacity for 6 hours of continuous operation.

(d) A vessel of more than 65 feet in length with overnight accommodations for more than 49 passengers must have an emergency lighting system which complies with Part 112 of this chapter.

§ 183.434 Lifeboat and liferaft floodlights on vessels more than 65 feet in length with overnight accommodations for more than 49 passengers.

Each vessel of more than 65 feet in length with overnight accommodations for more than 49 passengers must have floodlights for illuminating the stowage position and embarkation station of lifeboats and liferafts. These floodlights must meet the requirements of § 111.75–16 of this chapter.

§ 183.440 Searchlight on dynamically supported craft.

A dynamically supported craft certificated for nighttime operation shall be equipped with a searchlight controllable from the vessel's operating station and suitable for the vessel's route.

Subpart E—Miscellaneous Systems and Requirements

§ 183.510 Propulsion engine control systems.

(a) A vessel must have:

(1) Two means of controlling each propulsion engine which are independent of each other;

(2) A means at each propulsion engine of readily disconnecting the remote engine control linkage to permit local operation; or

(3) On a multiple engine vessel, an independent means of controlling each propulsion engine.

(b) A vessel must have a reliable means for shutting down a propulsion engine, which is independent of the engine's speed control, at every location where the propulsion engine can be controlled.

(c) A propulsion engine control system, including pilothouse control, must be designed so that a loss of power to the control system does not result in an increase in shaft speed or propeller pitch.

§ 183.520 Lifeboat winches.

Each electric power-operated lifeboat winch must meet §§ 111.95 and 160.015 of this chapter.

§ 183.530 Hazardous areas.

(a) Electrical equipment in a machinery space with gasoline engines must be explosionproof or ignition-protected, or be part of an intrinsically safe system.

(b) Electrical equipment in paint lockers used to store paint, oil, turpentine, or other flammable liquids must be explosionproof or be part of an intrinsically safe system.

(c) Explosionproof equipment and intrinsically safe systems must meet the requirements of § 111.105 of this chapter.

§ 183.540 Elevators.

Each electric power, control, and interlock circuit of an elevator on a vessel must meet the requirements of ANSI A17.1.

§ 183.550 General alarm system on vessels of more than 65 feet in length with overnight accommodations for more than 49 passengers.

(a) A vessel of more than 65 feet in length with overnight accommodations for more than 49 passengers must have a general alarm which meets the requirements of Subpart 113.25 of this chapter.

(b) The public address system required by § 184.610 of this subchapter may be utilized to sound the general alarm signal.

PART 184—VESSEL CONTROL AND MISCELLANEOUS SYSTEMS AND EQUIPMENT

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Authority: 46 U.S.C. 2104, 3306; 49 CFR 1.46.

Subpart A—General Provisions

§ 184.100 General requirement.

Vessel control systems and other miscellaneous systems and equipment required by this part must be suitable for the purposes intended.

§ 184.115 Applicability to existing vessels.

(a) An existing vessel need not comply with §§ 184.402(d), 184.404, 184.406, 184.408, 184.410, and 184.602 of this part unless the OCMI specifically requires compliance due to the route or service of the vessel.

(b) An existing vessel need not comply with the requirements of § 184.610 of this part until [insert date 5 years after effective date of regulations] or 10 years after its keel was laid or the vessel was at a similar stage of construction, whichever is later.

(c) An existing vessel need not comply with the requirements of § 184.710 of this part until [insert date of day 1 year after effective date of regulations].

Subpart B—Cooking and Heating

§ 184.200 General.

Cooking and heating equipment must be suitable for marine use. Equipment designed and installed in accordance with ABYC Standards A–3 and A–7 or NFPA 302, except as provided in § 184.202 of this subpart, complies with this requirement.

§ 184.202 Restrictions.

(a) The use of gasoline for cooking, heating, or lighting is prohibited on all vessels.

(b) Except as provided by § 184.240, the carriage or use of liquefied or non-liquefied gases and certain flammable liquids as ships' stores is prohibited by Part 147 of this chapter.

§ 184.210 Heating equipment.

(a) Each heater must be so constructed and installed as to prevent the hanging from it of items such as towels and clothing.

(b) Each electric space heater must be provided with a thermal cutout to prevent overheating.

(c) Each heater element of an electric space heater must be of an enclosed type, and the element case or jacket must be made of a corrosion resistant material.

§ 184.220 Cooking equipment.

(a) Doors on a cooking appliance must be provided with heavy duty hinges and locking devices to prevent accidental opening in heavy seas.

(b) A cooking appliance must be installed to prevent movement in heavy seas.

(c) For a grill or similar type of cooking appliance, means must be provided to collect grease or fat and to prevent its spillage on wiring or the deck.

(d) Grab rails must be installed on a cooking appliance when determined by the OCMI to be necessary for safety.

(e) Sea rails, with suitable barriers to prevent accidental movement of cooking pots, must be installed on a cooking range.

(f) Electric connections for a cooking appliance must be dripproof.

§ 184.240 Gas systems.

[Final rules developed under Coast Guard Docket 83–013, Carriage and Use of Liquefied and Non-liquefied Gas as Cooking Fuels on Vessels Carrying Passengers, will be inserted in this section.]

Subpart C—Mooring and Towing Equipment

§ 184.300 Ground tackle and mooring lines.

A vessel must be fitted with ground tackle and mooring lines necessary for the vessel to be safely anchored and moored. The ground tackle and mooring lines provided must be satisfactory for the size of the vessel, the waters on which the vessel operates, and other operating hazards.

§ 184.310 Towing dynamically supported craft.

(a) A dynamically supported craft must be suitably equipped to make the vessel capable of being towed safely in the worst intended operating conditions at a maximum towing speed satisfactory to the OCMI.

(b) The towing arrangements and all eyebolts, fairleads, and bitts must be so constructed and attached to the hull that if they are damaged, the watertight integrity of the vessel will not be impaired.

Subpart D—Navigation Equipment

§ 184.402 Compasses.

(a) Except as otherwise provided in this section, every vessel must be fitted with a suitable magnetic compass designed for marine use.

(b) The following vessels need not be fitted with a compass:

(1) A vessel on a rivers route;

(2) A nonself-propelled vessel; and

(3) A vessel operating on short restricted routes on lakes, bays, and sounds.

(c) When a vessel is underway, a compass required by paragraph (a) of this section, must be mounted at the operating station.

(d) Except on a vessel limited to daytime operations, the compass must be illuminated.

§ 184.404 Radar.

(a) The following self-propelled vessels must be fitted with a general marine radar system for surface navigation with a radar screen mounted at the operating station:

(1) A vessel of more than 65 feet in length with overnight accommodations for more than 49 passengers;

(2) A vessel with an oceans, coastwise, or Great Lakes route carrying more than 49 passengers, except a vessel operated on a short restricted route when the OCMI has determined that a radar is not necessary due to the vessel's route and local weather conditions;

(3) A vessel carrying more than 150 passengers, except a vessel operated on a short restricted route when the OCMI has determined that a radar is not necessary due to the vessel's route and local weather conditions; and

(4) A dynamically supported craft when certificated for nighttime or restricted visibility operation.

(b) The radar and its installation must be suitable for the intended speed and route of the vessel.

§ 184.406 Speed indicating devices for dynamically supported craft.

A DSC must be fitted with a means for indicating speed along its track. The OCMI may waive this requirement when he concludes that the vessel's route and worst intended operating conditions do not require such a device.

§ 184.408 Fathometers.

A vessel of more than 65 feet in length and a DSC, except an air cushion vehicle, must be fitted with a fathometer unless the vessel or DSC operates on a short restricted route for which the OCMI has determined that a fathometer is not necessary.

§ 184.410 Electronic position fixing devices.

A vessel on an oceans route must be equipped with an electronic position fixing device, capable of providing accurate fixes for the area in which the vessel operates, to the satisfaction of the OCMI.

§ 184.412 Equipment for night operation of dynamically supported craft.

A DSC must be equipped with any additional equipment which the OCMI determines is necessary for operating the vessel at night.

§ 184.420 Charts and nautical publications.

(a) As appropriate for the intended voyage, a vessel must carry adequate and up-to-date:

(1) Charts of large enough scale to make safe navigation possible;

(2) U.S. Coast Pilot or similar publication;

(3) Coast Guard Light List;

(4) Tide tables published by the National Ocean Service; and

(5) Current tables published by the National Ocean Service, or a river current publication issued by the U.S. Army Corps of Engineers or a river authority.

(b) Extracts from the publications listed above for the areas to be transited may be provided instead of the complete publication.

Subpart E—Radio

§ 184.502 Requirements of the Federal Communications Commission.

A vessel must comply with the applicable requirements for radio telegraph, radiotelephone, and EPIRB installations, including the requirements for a station license and installation certificates to be issued by the Federal Communications Commission, as set forth in 47 CFR Part 80.

§ 184.506 Emergency broadcast placard.

A durable placard must be posted next to all radiotelephone installations with the following instructions and information, specific to the individual vessel, indicated on it:

Emergency Broadcast Procedures

(1) Make sure your radiotelephone is on.

(2) Select 156.8 mHz (channel 16 VHF) or 2182 kHz. (Channel 16 VHF and 2182 kHz on SSB are for emergency and calling purposes only.)

(3) Press microphone button and, speaking slowly—clearly—calmly, say:

"MAYDAY—MAYDAY—MAYDAY" for situations involving Immediate Danger to Life and Property; and

"PAN PAN—PAN PAN—PAN PAN" for urgent situations where there is No Immediate Danger to Life or Property.

(4) Say: "THIS IS (INSERT VESSEL'S NAME), (INSERT VESSEL'S NAME), (INSERT VESSEL'S NAME), (INSERT VESSEL'S CALL SIGN), OVER."

(5) Release the microphone button briefly and listen for acknowledgment. If no one answers, repeat steps 3 & 4.

(6) If there is no acknowledgment, or if the Coast Guard or another vessel responds, say: "MAYDAY" or "PAN PAN", (INSERT VESSEL'S NAME)."

(7) DESCRIBE YOUR POSITION using latitude and longitude coordinates, LORAN coordinates, or range and bearing form a known point.

(8) STATE THE NATURE OF THE DISTRESS.

(9) GIVE NUMBER OF PERSONS ABOARD AND THE NATURE OF ANY INJURIES.

(10) ESTIMATE THE PRESENT SEAWORTHINESS OF YOUR VESSEL.

(11) BRIEFLY DESCRIBE YOUR VESSEL: (INSERT LENGTH, COLOR, HULL TYPE, TRIM, MASTS, POWER, ANY ADDITIONAL DISTINGUISHING FEATURES).

(12) Say: "I WILL BE LISTENING ON CHANNEL 16/2182."

(13) End message by saying: "THIS IS (INSERT VESSEL'S NAME & CALL SIGN)."

(14) If your situation permits, stand by the radio to await further communication with the Coast Guard or another vessel. If no answer, repeat, then try another channel.

Subpart F—Control and Internal Communication Systems

§ 184.602 Internal communication systems.

(a) A vessel equipped with pilothouse control must have a fixed means of two-way communication from the operating station to the location where the means of controlling the propulsion machinery, required by §§ 183.510(a)(1) or 183.510(a)(2) of this subchapter, is located.

(b) A vessel equipped with auxiliary means of steering, required by § 182.620 of this subchapter, must have a fixed means of two-way communication from the operating station to the location where the auxiliary means of steering is controlled.

(c) When the propulsion machinery of a vessel cannot be controlled from the operating station, an efficient communication system must be provided between the operating station and the propulsion machinery space.

(d) When the locations addressed in paragraphs (a), (b), and (c) of this section are sufficiently close together, direct voice communication satisfactory to the cognizant OCMI is acceptable instead of the required fixed means of communications.

(e) A means of communication must be provided to enable the crew members of a dynamically supported craft to communicate with each other, from all spaces where crew members work and the crew accommodation spaces, in an emergency.

(f) A means of communication must be provided on a dynamically supported craft between the operating station and spaces where any machinery essential to the safe operation of the vessel can be controlled.

§ 184.610 Public address systems.

(a) A dynamically supported craft, a vessel with more than one passenger deck, and a vessel with overnight accommodations must have a public address system, operable from the operating station, except that a public address system is not required on a vessel of not more than 65 feet in length and carrying not more than 49 passengers if a public announcement made from the operating station without electronic amplification can be heard, to the satisfaction of the OCMI, throughout the passenger accommodation spaces during normal operating conditions.

(b) On a vessel of not more than 65 feet in length, a battery powered bullhorn may serve as the public address system if audible throughout the passenger accommodation spaces of a vessel and provided that the batteries are connected to a battery charger when not in use to keep the batteries at a fully charged level.

(c) On a vessel of more than 65 feet in length, the public address system must be a fixed installation and be audible throughout all accommodation spaces and other spaces normally manned by crew members.

§ 184.620 Stabilization systems on dynamically supported craft.

(a) A stabilization system on a DSC which is designed to control the attitude

of the vessel, including heel, trim, course, and height, or to stabilize its motion, including roll, pitch, yaw, and heave, must be approved by the cognizant OCMI.

(b) A stabilization system on a DSC, including an automatic stabilization system, must be controllable at the operating station.

(c) When not in use or upon system failure, the directional control and stabilizing devices of a stabilization system on a DSC must revert to and remain in neutral position without affecting other vessel controls or the ability to put the craft into the displacement mode.

(d) A DSC with an automatic stabilization system must be fitted with:

(1) automatic safety controls capable of putting the vessel into the displacement mode if a condition impairing safety arises; and

(2) means at the operating station to override and cancel the override of an automatic safety control.

Subpart G—Miscellaneous

§ 184.702 Oil pollution prevention equipment and procedures.

A vessel must comply with the applicable design, equipment, personnel, procedures, and record requirements of 33 CFR Parts 151, 155, and 156.

§ 184.704 Marine sanitation devices.

A vessel with installed toilet facilities must have a marine sanitation device in compliance with 33 CFR Part 159.

§ 184.710 First aid kits.

A vessel must carry a first aid kit approved under § 160.041 of this chapter or a kit with equivalent contents, instructions, and markings. The contents must be stowed in a suitable container, easily visible and readily available to the crew.

§ 184.720 Emergency equipment on vessels more than 65 feet in length with overnight accommodations for more than 49 passengers.

A vessel of more than 65 feet in length with overnight accommodations for more than 49 passengers must carry emergency equipment in compliance with the requirements of § 77.30 of this chapter.

PART 185—OPERATIONS

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Authority: 46 U.S.C. 2104, 3306, 6101, 7701, 8105; 49 CFR 1.46.

Subpart A—General Provisions

§ 185.100 General requirement.

A vessel must be operated in accordance with applicable laws and regulations and in such a manner as to afford adequate precaution against hazards which might endanger the vessel and the persons being transported.

§ 185.115 Applicability to existing vessels.

(a) An existing vessel need not comply with the requirements of § 185.602(b) of this part until completion of the next drydock of the vessel, required by § 176.600 of this subchapter, after [insert effective date of regulations].

(b) An existing vessel need not comply with the requirements of §§ 185.604 and 185.610 of this part, where the size and contents of the markings required by §§ 185.604 and 185.610 vary from the size and contents of required markings on lifesaving equipment, watertight doors, and watertight hatches on the vessel prior to [insert effective date of regulations], until the existing markings are no longer legible as determined by the cognizant OCMI.

(c) An existing vessel need not comply with the requirements of §§ 185.514, 185.515, 185.516, and 185.604(j) of this part until completion of the next inspection for certification after [insert effective date of regulations].

(d) An existing vessel, which is a dynamically supported craft, need not comply with the requirements of §§ 185.430 and 185.810 of this part until

[insert date of day one year after effective date].

Subpart B—Marine Casualties and Voyage Records

§ 185.202 Notice of casualty.

The owner, agent, master, or person in charge of a vessel involved in a marine casualty shall give notice as soon as possible to the nearest Coast Guard Marine Safety or Marine Inspection Office whenever the casualty involves any of the following:

(a) All accidental groundings and any intentional grounding which also meet any of the other reporting criteria or creates a hazard to navigation, the environment, or the safety of the vessel;

(b) Loss of main propulsion or primary steering, or any associated component or control system, the loss of which causes a reduction of the maneuvering capabilities of the vessel. Loss means that systems, component parts, subsystems, or control systems do not perform the specified or required function;

(c) An occurrence materially and adversely affecting the vessel's seaworthiness or fitness for service or route, including but not limited to fire, flooding, or failure or damage to fixed fire extinguishing systems, lifesaving equipment, auxiliary power generating equipment, or bilge pumping systems;

(d) Loss of life;

(e) Injury which requires professional medical treatment beyond first aid and, in the case of a person engaged or employed on board a vessel in commercial service, which renders the individual unfit to perform routine vessel duties;

(f) An occurrence not meeting any of the above criteria but resulting in damage to property in excess of $25,000. Damage cost includes the cost of labor and material to restore the property to the service condition which existed prior to the casualty, but does not include the cost of salvage, cleaning, gas freeing, drydocking, or demurrage.

(g) A vessel is excluded from the requirements of paragraphs (d) and (e) of this section with respect to the death or injury of shipyard or harbor workers when such accidents are not the result of either a vessel casualty (e.g. collision) or a vessel equipment casualty (e.g. cargo boom failure) and are subject to the reporting requirements of the Occupational Safety and Health Administration under 29 CFR Part 1904.

§ 185.204 Substance of marine casualty notice.

The notice required in § 185.202 must include the name and official number of the vessel involved, the name of the vessel's owner or agent, the nature and circumstances of the casualty, the locality in which it occurred, the nature and extent of injury to persons, and the damage to property.

§ 185.206 Written report of marine casualty.

(a) In addition to the notice required by § 185.202, the owner, master, agent, or person in charge of the vessel shall, within five days, report in writing to the Officer in Charge, Marine Inspection, at the port in which the casualty occurred or nearest the port of first arrival. The written report required for vessel or personnel accidents must be made on Form CG–2692.

(b) If filed without delay, the Form CG–2692 may also provide the notice required by § 185.202.

§ 185.207 Alcohol or drug use by individuals directly involved in casualties.

(a) For each marine casualty required to be reported by § 185.202 of this part, the owner, agent, master, or person in charge of the vessel shall determine whether there is any evidence of alcohol or drug use by individuals directly involved in the casualty.

(b) The owner, agent, master, or person in charge of the vessel shall include in the written report, Form CG 2692, submitted for the casualty information which:

(1) Identifies those individuals for whom evidence of drug or alcohol use, or evidence of intoxication, has been obtained and,

(2) Specifies the method used to obtain such evidence, such as personal observation of the individual, or by chemical testing of the individual.

(c) An entry shall be made in the official log book if carried, pertaining to those individuals for whom evidence of intoxication is obtained. The individual must be informed of this entry and the entry must be witnessed by a second person.

(d) If an individual directly involved in a casualty refuses to submit to, or cooperate in, the administration of a timely chemical test, when directed by a Coast Guard commissioned, warrant, or petty office, or any other law enforcement officer authorized to obtain a chemical test under Federal, state, or local law, or by the owner, agent, master, or person in charge, this fact shall be noted in the official log book, if carried, and in the written report (Form CG 2692), and shall be admissible as evidence in any administrative proceeding.

§ 185.208 Damage to pressure vessels.

The owner, managing operator, or master must report damage to a boiler or unfired pressure vessel, which renders further use of the item unsafe until repairs are made, to the OCMI as soon as practicable after the damage occurs.

§ 185.220 Records of a voyage resulting in a marine casualty.

The owner, agent, master, or person in charge of any vessel involved in a marine casualty shall retain such voyage records as are maintained by the vessel, such as both rough and smooth deck and engine room logs, bell books, navigation charts, navigation work books, compass deviation cards, gyro records, stowage plans, records of draft, aids to mariners, night order books, radiograms sent and received, radio logs, crew and passenger lists and counts, articles of shipment, official logs, and other material which might be of assistance in investigating and determining the cause of the casualty. The owner, agent, master, other officer, or person responsible for the custody thereof, shall make these records available upon request, to a duly authorized investigating officer, administrative law judge, officer or employee of the Coast Guard.

§ 185.230 Report of accident to aid to navigation.

Whenever a vessel collides with a lightship, buoy, or other aid to navigation under the jurisdiction of the Coast Guard, or is connected with any such collision, the person in charge of such vessel shall report the accident to the nearest Officer in Charge, Marine Inspection. No report on Form CG 2692 is required unless one or more of the results listed in § 185.202 occurs.

§ 185.240 Reports when state of war exists.

During the period when a state of war exists between the United States and any foreign nation, communications in regard to casualties or accidents must be handled with caution and the reports must not be made by radio or by telegram.

§ 185.250 Assistance required.

(a) The master of a vessel involved in a collision, accident, or other casualty, shall render all practicable and necessary assistance to persons affected by the collision, accident, or casualty to the extent possible without serious danger to his or her own vessel or persons aboard. The master shall also give his or her name, address, and the identification of his or her vessel to any person injured and to the owner of any property damaged.

(b) The master of a vessel shall render assistance to any individual found at sea in danger of being lost, so far as the master can do so without serious danger to the master's vessel or individuals on board.

§ 185.260 Reports of potential vessel casualty.

(a) An owner, charterer, managing operator, or agent of a vessel shall immediately notify either of the following Coast Guard offices if there is reason to believe the vessel is lost or imperiled:

(1) The Coast Guard district rescue coordination center (RCC) cognizant over the area in which the vessel was last operating; or

(2) The Coast Guard search and rescue authority nearest to where the vessel was last operating.

(b) Reasons for belief that a vessel is in distress include, but are not limited to, lack of communication with or nonappearance of the vessel.

(c) The owner, charterer, managing operator, or agent notifying the Coast Guard under paragraph (a) of this section, shall:

(1) Provide the name and identification number of the vessel, the names or number of individuals on board, and other information that may be requested by the Coast Guard; and

(2) Submit written confirmation within 24 hours to the Coast Guard facility to which unwritten notice was given of the possibility of the vessel being in distress.

§ 185.280 Official logbook for foreign voyages.

(a) Every vessel on a voyage from a port in the United States to a foreign port except to a port in Canada, or vice versa, must have an official logbook.

(b) The master shall make or have made in the official logbook the following entries:

(1) Each legal conviction of a seaman of the vessel and the punishment inflicted;

(2) Each offense committed by a seaman of the vessel for which it is intended to prosecute or to enforce under a forfeiture, together with statements about reading the entry and the reply made to the charge as required by 46 U.S.C. 11502;

(3) Each offense for which punishment is inflicted on board and the punishment inflicted;

(4) A statement of the conduct, character, and qualifications of each seaman of the vessel or a statement that the master declines to give an opinion about that conduct, character, and qualifications;

(5) Each illness of or injury to a seaman of the vessel, the nature of the illness or injury, and the medical treatment;

(6) Each death on board, with the cause of death, and if a seaman, the information required by 46 U.S.C. 10702;

(7) Each birth on board, with the sex of the infant and name of the parents;

(8) Each marriage on board, with the names and ages of the parties;

(9) The name of each seaman who ceases to be a crewmember (except by death), with the place, time, manner, and the cause why the seaman ceased to be a crewmember;

(10) The wages due to a seaman who dies during the voyage and the gross amount of all deductions to be made from the wages;

(11) The sale of the property of a seaman who dies during the voyage, including a statement of each article sold and the amount received for the property; and

(12) When a marine casualty occurs, a statement about the casualty and the circumstances under which it occurred, made immediately after the casualty when practicable to do so.

§ 185.282 Logbook for vessels of more than 65 feet in length with overnight accommodations for more than 49 passengers.

Except for a vessel required to have an official logbook by § 185.280 of this part, the owner, managing operator, or master of a vessel of more than 65 feet in length with overnight accommodations for more than 49 passengers shall supply logs or records in any form, which will be considered to take the place of the Official Logbook and may be used for the purpose of making entries therein as required by law or regulations in this subchapter. Such logs or records shall be kept available for review by a marine inspector for a period of one year after the date to which the records refer.

Subpart C—Miscellaneous Operating Requirements

§ 185.304 Navigation underway.

(a) The master of a vessel underway shall ensure that:

(1) The movement of the vessel is under the direction and control of the master or a mate at all times;

(2) The individual who directs and controls the movement of the vessel is competent to perform that duty and, when necessary, knows:

(i) The magnetic variation and deviation of the area being transited and the vessel's gyrocompass error;

(ii) The current velocity and direction of the area being transited;

(iii) The predicted set and drift of the area being transited; and

(iv) The tidal state of the area being transited;

(3) If a pilot other than a member of the vessel's crew is employed, the pilot is informed of the draft, maneuvering characteristics, and peculiarities of the vessel and of any abnormal circumstances on the vessel that may affect its safe navigation; and

(4) The equipment required by this part is maintained in operable condition.

(b) The individual directing the movement of the vessel shall:

(1) Ensure that an individual whom the master has determined is competent to steer the vessel is at the helm of the vessel at all times;

(2) Set the vessel's speed with consideration for:

(i) The prevailing visibility and weather conditions;

(ii) The proximity of the vessel to fixed shore and marine structures;

(iii) The comparative proportions of the vessel and the channel;

(iv) The density of marine traffic;

(v) The damage that might be caused by the vessel's wake;

(vi) The strength and direction of the current; and

(vii) Any local vessel speed limit;

(3) Ensure that rudder orders are executed as given;

(4) Ensure that engine speed and direction orders are executed as given;

(5) Correctly apply magnetic variation and deviation and gyrocompass errors; and

(6) Evaluate the danger of each closing visual or each closing radar contact.

(c) The master of a vessel of more than 65 feet in length with overnight accommodations for more than 49 passengers shall, in addition to the requirements of paragraph (a) of this section, ensure that:

(1) The individual directing and controlling the movement of the vessel periodically fixes or has another competent individual fix the vessel's position as necessary for the voyage;

(2) The position of the vessel at each fix is plotted on an adequate chart of the area and the individual directing the movement of the vessel is informed of the vessel's position;

(3) Electronic and other navigational equipment, external fixed aids to navigation, geographic reference points, and hydrographic contours are used when fixing the vessel's position;

(4) Buoys alone are not used to fix the vessel's position; and

(5) The vessel's anchors are ready for letting go when navigating in a congested area or a narrow channel.

§ 185.306 Passengers excluded from operating station.

The master shall, while the vessel is underway, exclude passengers from the operating station of a vessel carrying more than 150 passengers or which is of more than 65 feet in length with overnight accommodations for more than 49 passengers.

§ 185.310 Compliance with provisions of Certificate of Inspection.

The master of a vessel shall ensure that all of the provisions of the Certificate of Inspection are strictly adhered to; however, the master may divert from the route prescribed in the Certificate of Inspection or take such other steps as deemed necessary and prudent to assist vessels in distress or for other similar emergencies.

§ 185.320 Steering gear, controls, and communication system tests.

The master of a vessel shall have examined and tested the steering gear, signaling whistle, propulsion controls, and communication systems of the vessel within 12 hours of getting underway for a voyage, except that such examination and testing need not be conducted more than once in any 24 hour period.

§ 185.330 Hatches and other openings.

(a) Except when operating on lakes, bays, and sounds, or river routes in calm weather, all hatches and openings in the hull of a vessel must be kept tightly closed except when being used.

(b) All watertight doors in subdivision bulkheads must be kept tightly closed during the navigation of the vessel except when being used for transit between compartments.

§ 185.340 Vessels carrying vehicles.

(a) Automobiles or other vehicles must be stowed in such a manner as to permit both passengers and crew to get out and away from the vehicles freely in the event of fire or other disaster. The decks, where necessary, must be distinctly marked with painted lines to indicate the vehicle runways and the aisle spaces.

(b) The master shall take any necessary precautions to see that automobiles or other vehicles have their motors turned off and their emergency brakes set when the vessel is underway, and that the motors are not started until the vessel is secured to the landing. In addition, a vehicle at each end of a line of vehicles or next to a loading ramp must have its wheels securely blocked, while the vessel is being navigated.

(c) The master shall have appropriate "NO SMOKING" signs posted and shall take all necessary precautions to prevent smoking or carrying of lighted or smoldering cigars, cigarettes, etc., in the deck area assigned to automobiles or other vehicles.

(d) The master shall, prior to getting underway, ensure that vehicles are properly distributed consistent with the guidance in the vessel's stability letter and Certificate of Inspection, if applicable.

§ 185.350 Fueling of vessels using fuel having a flash point of 110 °F or lower (gasoline, etc.).

A vessel must not take on fuel having a flash point of 110 °F or lower when passengers are on board.

§ 185.352 Ventilation of gasoline machinery spaces.

The mechanical exhaust for the ventilation of a gasoline machinery space, required by § 182.460(a)(1)(ii) of this subchapter, must be operated:

(1) Prior to starting gasoline engines for the time sufficient to insure at least one complete change of air in the space served; and

(2) While gasoline machinery in the space is operating.

§ 185.356 Carriage of hazardous materials.

A vessel must not be used to transport a hazardous material, listed in 49 CFR 172.101, in commerce unless that material is handled and transported in accordance with 49 CFR Parts 171 through 176.

§ 185.360 Use of auto pilot.

Whenever an automatic pilot is used the master shall ensure that:

(a) It is possible to immediately establish manual control of the vessel's steering;

(b) A competent person is ready at all times to take over steering control; and

(c) The changeover from automatic to manual steering and vice versa is made by, or under the supervision of, the master or the mate on watch.

§ 185.370 Reckless or negligent operation.

A person shall not operate a vessel subject to the provisions of this subchapter in a negligent manner which endangers the life, limb, or property of any person. Violations of this section involving use which is grossly negligent, subject the violator, in addition to any other penalties, to the criminal penalties prescribed in 46 U.S.C. 2302.

Subpart D—Crew Requirements

§ 185.402 Licenses.

The licensed individuals employed upon any vessel subject to the provisions of this subchapter shall have their licenses in their possession and available for examination at all times when the vessel is operating.

§ 185.410 Watchmen.

(a) The owner, charterer, or managing operator of a vessel of more than 65 feet in length with overnight accommodations for more than 150 passengers shall, when carrying passengers during the nighttime, whether or not the vessel is underway, keep a suitable number of watchmen in the vicinity of the cabins or staterooms and on each deck to guard against and give alarm in case of a fire or other danger.

(b) Except when paragraph (a) of this section is applicable, the owner, charterer, or managing operator of a vessel carrying passengers shall have a suitable number of watchmen patrol throughout the vessel during the nighttime, whether or not the vessel is underway, to guard against and give alarm in case of a fire or other danger.

§ 185.420 Crew training.

Upon first being employed on the vessel and at least once every two months, each crew member on board the vessel must be instructed as to the duties that the crew member is expected to perform in an emergency including, but not limited to, the emergency instructions listed on the emergency instruction placard required by § 185.510 of this part and, when applicable, the duties listed in the station bill required by § 185.514 of this part.

§ 185.430 Qualified radar observer on DSC.

A crew member required to operate a radar set on a DSC shall hold a valid license endorsement as a radar observer issued under § 10.480 of this chapter.

§ 185.432 Crew member at embarkation stations on DSC.

A crew member, other than the master, must be positioned at each embarkation station on a dynamically supported craft whenever passengers are boarding survival craft.

Subpart E—Preparations for Emergencies

§ 185.502 Crew and passenger list.

(a) The owner, charterer, managing operator, or master of the following vessels shall keep a correct list of the

names of all persons which embark and disembark from the vessel:

(1) A vessel making an oceans, coastwise, or Great Lakes voyage other than a ferry on a Great Lakes voyage of less than 30 minutes;

(2) A vessel, with overnight accommodations for passengers, making an overnight voyage; and

(3) A vessel arriving from a foreign port except at a United States Great Lakes port from a Canadian Great Lakes port.

(b) The list required by paragraph (a) of this section must be prepared prior to departing on a voyage and deposited ashore in a well marked location at the vessel's normal berthing location or with a representative of the owner or managing operator of the vessel.

§ 185.504 Passenger count.

The master of a vessel, except a vessel listed in § 185.502, shall keep a correct, written count of all passengers received and delivered.

§ 185.506 Passenger safety orientation.

(a) Before getting underway on a voyage, the master of a vessel shall ensure that suitable public announcements are made informing all passengers of the below information when applicable:

(1) General explanation of emergency and evacuation procedures;

(2) Location of emergency exits, muster stations, and survival craft embarkation areas;

(3) Stowage location of lifejackets;

(4) Proper method of donning and adjusting lifejackets of the type(s) carried on the vessel including a demonstration of the proper donning of a lifejacket prior to beginning an oceans or coastwise voyage;

(5) The location of the instruction placards for lifejackets and other lifesaving devices;

(6) That all passengers will be required to don lifejackets when possible hazardous conditions exist as directed by the master but that passengers may don lifejackets whenever they feel it necessary;

(7) Possible hazardous conditions that may require the donning of lifejackets;

(8) The type and location of all other lifesaving devices carried on the vessel;

(9) The location and contents of the "Emergency Instructions" required by § 185.510; and

(10) If the vessel is operating under the special endorsement authorized by § 176.114 of this subchapter.

(b) The master of a vessel shall ensure that a passenger, who boards the vessel on a voyage after the initial public announcement has been made as required by paragraph (a) of this section, is also informed of the information in paragraph (a).

§ 185.508 Wearing of lifejackets.

(a) The master of a vessel shall require passengers to don lifejackets when possible hazardous conditions exist including, but not limited to:

(1) When transiting hazardous bars and inlets;

(2) During severe weather;

(3) In event of flooding, fire, or other events which may possibly call for evacuation; and

(4) When the vessel is being towed.

(b) When evaluating the need to require the donning of lifejackets, the master shall consider the size of the vessel and the location of the passengers on the vessel.

§ 185.510 Emergency instructions.

(a) Except as otherwise provided in this section, the master shall prepare and post durable emergency instruction placards in conspicuous places accessible to the crew and passengers.

(b) Except when in the judgment of the cognizant Officer in Charge, Marine Inspection, the operation of a vessel does not present one of the hazards listed, the emergency instruction placard must contain not less than the applicable portions of the "Recommended Emergency Instructions" listed in § 185.512 of this subpart. The emergency instructions must be further designed to address the particular equipment, arrangement, and operation of each individual vessel.

(c) When in the judgment of the cognizant Officer in Charge, Marine Inspection, a vessel has no suitable mounting surface, the emergency instructions need not be posted but must be carried aboard the vessel and be available to the crew and passengers for familiarization.

§ 185.512 Recommended emergency instruction placard.

Emergency Instructions

(1) *Rough weather at sea, crossing hazardous bars, or flooding.*

(i) Close all watertight and weathertight doors, hatches, and airports to prevent taking water aboard or further flooding in the vessel.

(ii) Keep bilges dry to prevent loss of stability due to water in bilges. Use power driven bilge pump, hand pump, and buckets to dewater.

(iii) Align fire pumps to use as bilge pump if possible.

(iv) Check all intake and discharge lines, which penetrate the hull, for leakage.

(v) Passengers must remain seated and evenly distributed.

(vi) Passengers must don lifejackets if the going becomes very rough, you are about to cross a hazardous bar, or when otherwise instructed by the master.

(vii) Never abandon the vessel unless actually forced to do so.

(viii) If assistance is needed follow the procedures on the emergency broadcast placard posted by the radiotelephone.

(ix) Prepare survival craft (life floats, (inflatable) rafts, (inflatable) buoyant apparatus, boats) for launching.

(2) *Man overboard.*

(i) Throw a ring buoy overboard as close to the person as possible.

(ii) Post a lookout to keep the person overboard in sight.

(iii) Launch rescue boat and maneuver to pick up person in the water, or maneuver the vessel to pick up the person in the water.

(iv) Have crew member put on lifejacket, attach a safety line to him, and have him stand by to jump into the water to assist the person overboard if necessary.

(v) If person is not immediately located, notify Coast Guard and other vessels in vicinity by radiotelephone.

(vi) Continue search until released by Coast Guard.

(3) *Fire*

(i) Cut off air supply to fire—close hatches, ports, doors, ventilators, etc. and shutoff ventilation system.

(ii) Cut off electrical system supplying affected compartment if possible.

(iii) Immediately use portable fire extinguishers at base of flames for flammable liquid or grease fires or water for fires in ordinary combustible materials. Do not use water on electrical fires.

(iv) If fire is in machinery spaces, shut off fuel supply and ventilation and activate fixed extinguishing system if installed.

(v) Maneuver vessel to minimize effect of wind on fire.

(vi) If unable to control fire, immediately notify the Coast Guard and other craft in the vicinity by radiotelephone.

(vii) Move passengers away from fire, have them put on lifejackets, and if necessary, prepare to abandon the vessel.

§ 185.514 Station bill.

(a) A station bill must be posted by the master on a vessel of more than 65 feet in length having:

(1) Overnight accommodations for more than 49 passengers; or

(2) A Certificate of Inspection requiring more than four crew members, including the master.

(b) The station bill must be posted at the operating station and in conspicuous locations in crew accommodation spaces.

(c) A vessel of more than 65 feet in length with overnight accommodations for more than 49 passengers must comply with the requirements of § 78.13 of this chapter in regards to the content of a station bill, the duties of the crew, emergency signals, an emergency squad, and instructions.

(d) Except when paragraph (c) of this section is applicable, the station bill of a

vessel of more than 65 feet in length required to have more than four crew members, must set forth the special duties and duty station of each crew member for various emergencies. The duties must, as far as possible, be comparable with the regular work of the individual. The duties must include at least the following and any other duties necessary for the proper handling of a particular emergency:

(1) The closing of hatches, airports, watertight doors, vents, scuppers, and valves for intake and discharge lines which penetrate the hull, the stopping of fans and ventilating systems, and the operating of all safety equipment;

(2) The preparing and launching of survival craft and rescue boats;

(3) The extinguishing of fire; and

(4) The mustering of passengers including the following:

(i) Warning the passengers;

(ii) Seeing that they are dressed and have put on their lifejackets.

(iii) Assembling the passengers and directing them to their appointed stations; and

(iv) Keeping order in the passageways and stairways and generally controlling the movement of the passengers.

§ 185.515 Passenger safety bill.

(a) A passenger safety bill must be posted by the master in each passenger cabin or stateroom on a vessel of more than 65 feet in length with overnight accommodations for more than 49 passengers.

(b) Each passenger safety bill required by this section must list:

(1) The muster stations aboard the vessel;

(2) The embarkation station and the number and location of the survival craft to which each occupant of the space is assigned;

(3) The fire and emergency signal and the abandon ship signal;

(4) Essential action that must be taken in an emergency; and

(5) If immersion suits are provided for passengers, the location of the suits and illustrated instructions on the method of donning the suits.

§ 185.516 Lifejacket placards.

(a) Placards containing instructions for the donning and use of the lifejackets aboard the vessel must be posted in conspicuous places which are regularly accessible to the crew and passengers unless the OCMI determines that there is no suitable mounting surface aboard the vessel.

(b) Lifejacket placards must be posted in each passenger cabin or stateroom on a vessel of more than 65 feet in length with overnight accommodations for more than 49 passengers.

§ 185.518 Inflatable liferaft placards.

(a) Every vessel equipped with an inflatable liferaft must have posted in conspicuous places which are regularly accessible to the crew and passengers, and by each raft, approved placards containing instructions for launching and inflating inflatable liferafts for the information of persons on board. The number and location of such placards for a particular vessel must be acceptable to the Officer in Charge, Marine Inspection.

(b) Under the requirement in § 160.051–6(c)(1) of this chapter, the manufacturer of approved inflatable liferafts is required to provide approved placards containing such instructions with each liferaft.

§ 185.520 Abandon ship and man overboard instructions and drills.

(a) The master shall conduct sufficient drills and give sufficient instructions to ensure that all crew members are familiar with their duties in an emergency.

(b) On a vessel which requires more than four survival craft to accommodate the total number of persons permitted on board, and on a vessel of more than 65 feet in length with overnight accommodations for more than 49 passengers, abandon ship drills must be conducted as follows:

(1) An abandon ship drill must be conducted on the vessel at least once each week;

(2) Each member of the crew shall participate in at least one abandon ship drill each month; and

(3) If more than 25% of the crew have not participated in an abandon ship drill on board that particular vessel in the previous month, a drill must be conducted before the vessel leaves port.

(c) Each abandon ship drill must include:

(1) Summoning of the crew to report to assigned stations and prepare for assigned duties;

(2) Summoning of passengers on a vessel on an overnight voyage to muster stations or embarkation stations and ensuring that they are made aware of how the order to abandon ship will be given;

(3) Checking to see that passengers and crew are suitably dressed;

(4) Checking to see that lifejackets are correctly donned;

(5) Operation of any davits used for launching liferafts; and

(6) Instruction on the automatic and manual deployment of survival craft.

(d) An abandon ship drill must, as far as practicable, be conducted as if there were an actual emergency.

(e) Each rescue boat must be launched with its assigned crew aboard and maneuvered in the water as if during an actual man overboard situation:

(1) Once each month, if reasonable and practicable; but

(2) At least once every 3 months.

(f) Onboard training in the use of davit-launched liferafts must take place at intervals of not more than 4 months on a vessel with a davit-launched liferaft. Whenever practicable, this must include the inflation and lowering of a liferaft. If a special liferaft intended for training purposes only is used, and is not part of the vessel's lifesaving equipment, the special liferaft must be conspicuously marked.

§ 185.524 Fire fighting training and fire drills.

(a) The master shall conduct such fire drills as are necessary to make sure that all members of the crew are familiar with their duties in case of a fire.

(b) Each fire drill must include:

(1) Summoning of passengers on a vessel on an overnight voyage to muster or embarkation stations;

(2) Summoning of the crew to report to assigned stations and to prepare for and demonstrate assigned duties; and

(3) Instruction in the use of fire extinguishers and any other fire fighting equipment on board.

(c) Each fire drill must, as far as practicable, be conducted as if there were an actual emergency.

§ 185.530 Responsibilities of licensed individuals.

Nothing in the emergency instructions or a station bill required by this subpart exempts any licensed individual from the exercise of good judgment in an emergency situation.

Subpart F—Markings Required

§ 185.602 Hull markings.

(a) A vessel must be marked as required by Part 67 of this chapter.

(b) A vessel which complies with the requirements of §§ 170.170, 170.173, 171.050, 171.055, and 171.057 of this chapter, in accordance with § 178.310 of this subchapter, must:

(1) Have permanent draft marks at each end of the vessel; or

(2) Have permanent loading marks placed on each side of the vessel forward, amidships, and aft to indicate the maximum allowable draft and trim.

(c) A loading mark required by paragraph (b)(2) of this section must be a horizontal line of at least 8 inches in

length and 1 inch in height, with its upper edge passing through the point of maximum draft. The loading mark must be painted in a contrasting color to the sideshell paint.

(d) On a vessel on which the number of passengers permitted on upper decks is limited by stability criteria, as indicated by the vessel's stability letter, the maximum number of passengers allowed on the upper decks must be indicated by a durable marking of at least one inch numbers and letters at the entranceway to each such deck.

§ 185.604 Lifesaving equipment markings.

(a) The name of a vessel must be plainly marked or painted in letters and numbers at least 3 inches high:

(1) On each side of the bow of each rescue boat; and

(2) On each life float and buoyant apparatus.

(b) Each lifejacket, immersion suit, and ring lifebuoy must be marked in block capital letters with the vessel's name.

(c) The name of the vessel must be plainly marked or painted on each Emergency Position Indicating Radio Beacon (EPIRB), except on an EPIRB in an inflatable liferaft.

(d) The number of persons capacity must be plainly marked or painted on each side of the bow of each rescue boat in letters and numbers at least 1.5 inches high.

(e) The number of persons capacity must be plainly marked or painted on each life float and buoyant apparatus in letters and numbers at least 1.5 inches high. This number must:

(1) Be the number of persons the device is equipped for; and

(2) Not be greater than the number of persons the device is approved for as shown on its nameplate.

(f) The number of persons each inflatable liferaft is permitted to accommodate must be marked or painted on the inflatable liferaft container in letters and numbers at least 1.5 inches high.

(g) Each container for lifejackets and immersion suits must be marked in letters and numbers at least 2 inches high with the number and identification of the items stowed inside and their sizes.

(h) The name of the vessel must be plainly marked or painted on each oar and paddle.

(i) Each lifejacket must be marked with Type I retroreflective material approved under Subpart 164.018 of this chapter. The arrangement of the retroreflective material must be as specified by IMO Resolution [number to be inserted when adopted by IMO], "Installation of Reflective Tape on Lifesaving Equipment" except that retroreflective material applied prior to [insert adoption date of resolution] is acceptable until replacement is necessary.

(j) Each rescue boat and ring life buoy must be marked with Type II retroreflective material approved under Subpart 164.018 of this chapter. The arrangement of the retroreflective material must be as specified by IMO Resolution [number to be inserted when adopted by IMO], "Installation of Reflective Tape on Lifesaving Equipment."

§ 185.606 Escape hatches and emergency exits.

All escape hatches and other emergency exits used as means of escape must be marked on both sides using at least 1-inch letters: "Emergency Exit, Keep Clear", unless such markings are deemed unnecessary by the Officer in Charge, Marine Inspection.

§ 185.608 Fuel shutoff valves.

Remote fuel shutoff stations must be marked in at least 1-inch letters indicating purpose of the valve and direction of operation.

§ 185.610 Watertight doors and watertight hatches.

Watertight doors and watertight hatches must be marked on both sides in at least 1-inch letters: "Watertight Door—Keep Closed" or "Watertight Hatch—Keep Closed", unless such markings are deemed unnecessary by the Officer in Charge, Marine Inspection.

§ 185.612 Fire protection equipment.

(a) Complete but simple instructions for the operation of a fixed gas fire extinguishing system must be located in a conspicuous place at or near each pull box and stop valve control and in the space where the extinguishing agent cylinders are stored. If the storage cylinders are separate from the protected space, the instructions must also include a schematic diagram of the system and instructions detailing alternate methods of releasing the extinguishing agent should the local manual release or stop valve controls fail to operate. Each control valve to a distribution line must be marked to indicate the space served.

(b) An alarm for a fixed gas fire extinguishing system must be clearly and conspicuously marked "WHEN ALARM SOUNDS-VACATE AT ONCE. CARBON DIOXIDE (HALON) BEING RELEASED."

(c) Each distribution line valve of a fixed gas fire extinguishing system and the fire main, must be plainly, conspicuously, and permanently marked indicating the space served.

(d) A manual fire alarm box must be clearly and conspicuously marked "IN CASE OF FIRE BREAK GLASS."

(e) An alarm for an automatic fire detecting system or a manual alarm system must be clearly and conspicuously marked "FIRE ALARM".

(f) An alarm for an automatic sprinkler system must be clearly and conspicuously marked "SPRINKLER ALARM".

(g) An alarm bell for a smoke detecting system must be clearly and conspicuously marked "SMOKE DETECTION ALARM".

(h) A control cabinet or space containing valves, manifolds, or controls for any fixed gas fire extinguishing system must be clearly and conspicuously marked "CARBON DIOXIDE (HALON) FIRE EXTINGUISHING APPARATUS", or as otherwise required by the cognizant Officer in Charge, Marine Inspection.

Subpart G—Operational Readiness, Maintenance, and Inspection of Lifesaving Equipment

§ 185.700 Operational readiness.

(a) Except as provided in § 185.702 of this subpart, each launching appliance and each survival craft and rescue boat on a vessel must be in good working order and ready for immediate use before the vessel leaves port and at all times when the vessel is underway.

(b) Each deck where survival craft or rescue boats are stowed or boarded must be kept clear of obstructions that would interfere with the boarding and launching of the survival craft or rescue boat.

§ 185.702 Maintenance.

(a) The manufacturer's instructions for onboard maintenance of survival craft, rescue boats, and launching appliances, manufactured on or after [insert effective date of regulations], must be onboard a vessel of more than 65 feet in length and readily available for a vessel of not more than 65 feet in length. The instructions must also be readily available at each inspection for certification and reinspection. The instructions must include the following:

(1) Checklists for use when carrying out the inspections required under this subpart;

(2) Maintenance and repair instructions;

(3) A schedule of periodic maintenance;

(4) A diagram of lubrication points with the recommended lubricants;

(5) A list of replaceable parts;

(6) A list of sources of spare parts; and

(7) A log for records of inspections and maintenance.

(b) The owner or managing operator shall make sure that maintenance is carried out in accordance with the instructions required under paragraph (a) of this section.

(c) The OCMI may accept, instead of the instructions required under paragraph (a) of this section, a shipboard planned maintenance program that includes the items listed in that paragraph.

§ 185.704 Maintenance of falls.

(a) Each fall used in a launching appliance on a vessel must be turned end for end at intervals of not more than 30 months.

(b) Each fall must be renewed when necessary due to deterioration or at intervals of not more than 5 years, whichever is earlier.

(c) Each fall must have a corrosion resistant tag with the following permanently marked on it:

(1) The date the new fall was installed; and

(2) If the fall has been turned end for end, the date it was turned.

§ 185.720 Weekly maintenance and inspections.

The following tests and inspections must be carried out weekly on a vessel:

(a) Each survival craft, rescue boat, and launching appliance must be visually inspected to ensure its readiness for use;

(b) Each rescue boat engine must be run ahead and astern for not less than 3 minutes, unless the ambient temperature is below the minimum temperature required for starting the engine; and

(c) Each battery for rescue boat engine starting must be brought up to full charge at least once each week if:

(1) The battery is of a type that requires recharging; and

(2) The battery is not connected to a device that keeps it continuously charged.

§ 185.722 Monthly inspections.

(a) Each survival craft, rescue boat, and launching appliance on a vessel must be inspected monthly, using the applicable checklist when required under § 185.702, to make sure it is complete and in good order.

(b) Each Emergency Position Indicating Radiobeacon (EPIRB), other than an EPIRB in an inflatable liferaft, must be tested monthly, using the integrated test circuit and output indicator to determine that it is operative.

§ 185.724 Quarterly inspections.

(a) Each winch control apparatus of a launching appliance on a vessel, including motor controllers, emergency switches, master switches, and limit switches, must be examined once in each three months.

(b) The examination required by paragraph (a) of this section must include the removal of drain plugs and the opening of drain valves to make sure that enclosures are free of water.

§ 185.726 Annual inspections.

(a) Each rescue boat must be stripped, cleaned, and thoroughly inspected and repaired at least once each year, including emptying and cleaning of each fuel tank, and refilling it with fresh fuel.

(b) Each davit, winch, fall and other launching appliance must be thoroughly inspected and repaired once each year.

(c) Each item of lifesaving equipment with an expiration date must be replaced during the annual inspection and repair if the expiration date has passed.

(d) Each battery used in an item of lifesaving equipment, except inflatable survival craft equipment, must be replaced during the annual inspection if the expiration date of the battery has passed. The expiration date of the battery may be marked on the battery or the owner or managing operator may have a record of the expiration date from the manufacturer of a battery marked with a serial number.

(e) Except for a storage battery used in a rescue boat, each battery without an expiration date indicated on it or for which the owner or managing operator does not have a record of the expiration date, used in an item of lifesaving equipment, must be replaced during the annual inspection.

(f) The requirements in this section do not relieve the master of the requirement under § 185.700 to keep the equipment ready for immediate use.

§ 185.730 Servicing of inflatable liferafts, inflatable buoyant apparatus, inflatable lifejackets and inflated rescue boats.

(a) Each inflatable liferaft, inflatable buoyant apparatus, inflatable lifejacket, and hybrid inflatable lifejacket or work vest must be serviced:

(1) Within 12 months of its initial packing; and

(2) Within 12 months of each subsequent servicing, except when servicing is delayed until the next scheduled inspection of the vessel, provided that the delay does not exceed 5 months.

(b) Each inflatable liferaft and inflatable buoyant apparatus must be serviced:

(1) Whenever the container of the raft is damaged, or the straps or seal are broken; and

(2) In accordance with the servicing procedure under Subpart 160.051 of this chapter.

(c) Each inflatable lifejacket must be serviced in accordance with the servicing procedure under Subpart 160.076 of this chapter.

(d) Each hybrid inflatable lifejacket or work vest must be serviced in accordance with the servicing procedure under Subpart 160.077 of this chapter.

(e) Repair and maintenance of inflated rescue boats must be in accordance with the manufacturer's instructions. All repairs must be made at a servicing facility approved by the Commandant, except for emergency repairs carried out on board the vessel.

§ 185.740 Periodic servicing of hydrostatic release units.

(a) Each hydrostatic release unit must be serviced:

(1) Within 12 months of its manufacture and within 12 months of each subsequent servicing, except when servicing is delayed until the next scheduled inspection of the vessel, provided that the delay does not exceed 5 months; and

(2) In accordance with the repair and testing procedures under Subpart 160.062 of this chapter.

(b) The springs of each spring-tensioned gripe used with a hydrostatic release unit must be renewed when the unit is serviced and tested.

Subpart H—Dynamically Supported Craft Operations

§ 185.800 Operating requirements.

(a) The owner or managing operator of a dynamically supported craft shall ensure, to the satisfaction of the OCMI, that:

(1) Maintenance services with necessary equipment are available for a DSC within its area of operation;

(2) The area of operation of the DSC is within range of watercraft or aircraft which have adequate emergency equipment and which can rapidly and adequately respond to a request for assistance from the DSC;

(3) The DSC receives reliable, current weather forecasts for its area of operation;

(4) Passenger terminals are properly arranged and have adequate safety provisions so that they may be safely used by the DSC; and

(5) Vessel traffic in the area of operation of the DSC can be safely controlled through visual sighting, radio contact, traffic separation schemes, or other traffic control means as necessitated by the traffic volume in the area.

(b) The owner or managing operator of a DSC shall establish restrictions or provisions relating to position fixing and operating at night or in restricted visibility, including the use of radar or other electronic aids to navigation, as appropriate.

(c) When a DSC is required to have a radiotelephone or radiotelegraph by 47 CFR Part 80, a continuous radio watch must be maintained, and the vessel must be able to continuously maintain radiocommunications with its base terminal or other shore radio stations.

(d) The master of a DSC shall use reliable, current weather forecasts in determining whether to delay or cancel the commencement of a particular voyage, or alter the route of the vessel.

§ 185.810 Operating manual.

Each DSC must have on board an operating manual, approved by the cognizant OCMI, which includes adequate information and guidance to enable the vessel to be operated and maintained safely. The operating manual must contain the information required by § 185.812 of this subpart and be updated as necessary.

§ 185.812 Contents of operating manual.

(a) The operating manual of a DSC must contain at least the following information:

(1) Worst intended conditions within which the DSC may operate;

(2) Permissible conditions of loading, including maximum weight, center of gravity position, and distribution of load;

(3) Any loading procedures necessary to comply with the permissable conditions of loading;

(4) Procedures for checking the integrity of buoyancy compartments;

(5) Any limitation regarding the operation of the vessel;

(6) Information regarding the handling of the craft including:

(i) Limitations on yawing and turning;

(ii) Stopping in normal and emergency conditions;

(iii) Stability about three axes in the dynamically supported mode and stability in the displacement mode;

(iv) Effects and means of controlling trim;

(v) Conditions which may lead to plough in;

(vi) Lift power limitations;

(vii) Controllability during transition from one operating surface of mode to another;

(viii) The effect of varying sea conditions;

(ix) Maximum safe speed for different conditions; and

(x) Minimum water depth required for operation in all modes;

(7) Details of buoyancy, stability, and subdivision likely to be of direct practical use to the crew in an emergency;

(8) Maximum permissible towing speeds and towing loads where applicable;

(9) Instructions on maintaining adequate fuel reserves;

(10) Action in the event of reasonably foreseeable emergencies;

(11) Precautions for avoiding a fire and the method of operating equipment intended to prevent, detect, extinguish, or control a fire;

(12) Procedures for the evacuation of passengers and the use of lifesaving equipment;

(13) Maintenance procedures and a preventative maintenance schedule;

(14) A list of accessible harbors of safe refuge along the vessel's route specifying those which have adequate transportation and communication facilities;

(15) A list of radio frequencies for use in routine communications between the DSC and its base terminal and for other radio stations in the vessel's area of operation that may be used in an emergency;

(16) Any restrictions or provisions established by the owner or managing operator relating to navigation including position fixing, operating at night or in restricted visibility, and the use of radar or other electronic navigation equipment;

(17) Training established to ensure maintenance of crew competence in regard to operation and emergency procedures; and

(18) Restrictions on working hours and rest periods for the crew.

(b) The operating manual of a DSC must indicate those portions which:

(1) Are only advisory and included to assist the master in safely operating the vessel; and

(2) Are mandatory and which non-compliance with would be a violation of the terms of the vessel's Certificate of Inspection.

Subpart I—Penalties

§ 185.900 Penalty for violations.

Violation of the provisions of this subchapter subject the violator to the applicable penalty provisions of Subtitle II of Title 46, United State Code.

§ 185.910 Revocation and suspension.

An individual holding a license, certificate of registry, or merchant mariner's document who commits an act of misconduct, negligence, or incompetence, or who violate or fails to comply with this subchapter or any other law or regulation intending to promote marine safety, is subject to proceedings under the provisions of 46 U.S.C. 7703 and Part 5 of this chapter with respect to suspension or revocation of a license, certificate, or document.

Signed: September 9, 1988.

M. J. Schiro,

Captain, U.S. Coast Guard, Acting Chief, Office of Marine Safety, Security and Environmental Protection.

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Part III

Department of Energy

Office of Conservation and Renewable Energy

10 CFR Part 435

Energy Conservation Voluntary Performance Standards for Commercial and Multi-Family High Rise Residential Buildings; Mandatory for New Federal Buildings; Interim Rule

DEPARTMENT OF ENERGY

Office of Conservation and Renewable Energy

10 CFR Part 435

[Docket No. CAS-RM-79-112-C]

Energy Conservation Voluntary Performance Standards for New Commercial and Multi-Family High Rise Residential Buildings; Mandatory for New Federal Buildings

AGENCY: U.S. Department of Energy.

ACTION: Interim rule.

SUMMARY: In accordance with Title III of the Energy Conservation and Production Act, the U.S. Department of Energy (DOE) is developing energy conservation performance standards for new buildings. The law provides that the standards will be voluntary for new non-Federal buildings, but will be mandatory for new Federal buildings.

Today, after due consideration of public comment, DOE is promulgating interim energy conservation performance standards for new commercial and multi-family high rise residential buildings. Within 180 days of the promulgation date, Federal agencies are required to design all future Federal commercial and multi-family high rise residential buildings in accordance with the interim standards or show that their current standards satisfy the energy efficiency requirements of the interim standards. The interim standards do not regulate the design of non-Federal buildings, although DOE recommends the use of the standards to the design professions as guidelines for the design of energy conserving buildings.

EFFECTIVE DATE: July 31, 1989.

FOR FURTHER INFORMATION CONTACT:

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SUPPLEMENTARY INFORMATION: Today, the Department of Energy (DOE) is promulgating interim energy conservation voluntary performance standards as required by the Energy Conservation Standards for New Buildings Act of 1976, as amended (Act), 42 U.S.C. Section 6831 *et seq.* The Federal agencies are required to design new Federal commercial and multi-family high rise residential buildings in accordance with the energy efficiency requirements prescribed by the interim voluntary energy performance standards. The standards do not regulate non-Federal construction, however DOE recommends the use of the interim standards to the design professions and owners and operators of commercial and multi-family high rise residential buildings as guidelines for the design of energy conserving buildings.

Prior to the promulgation of the interim standards, DOE published, on May 6, 1987, a Notice of Proposed Rulemaking (NOPR) (52 FR 17051 *et seq.*) in the **Federal Register**. The NOPR announced DOE's intention to promulgate interim voluntary standards for new Federal commercial and multi-family high rise residential buildings and provided for a ninety day public comment period and three public hearings. The comment period closed on August 4, 1987.

In response to public comment and with the availability of additional technical information, DOE made revisions to the proposed interim standards.

The interim standards represent a significant Federal effort to assist the private sector in developing energy conservation standards without regulatory intrusion. Congress has directed Federal agencies to regulate their own design practice instead of someone else's by setting an example that may be transferred to the private sector by adoption of similar standards.

For this reason, the interim standards issued today are presented in the format of commercial standards instead of a Federal regulation. A more conventional regulatory format could easily serve to regulate Federal design practices but it would not be as easy to transfer to private sector design practices. To facilitate such transferability, DOE has used the commercial standards format for the interim standards that can be better understood and more readily used in the private sector. Also, for the same reason the interim standards contain extensive explanatory material not normally included in Federal standards.

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I. Background

Originally enacted on August 14, 1976 as Title III of the Energy Conservation and Production Act, Pub. L. 94–385, 90 Stat. 1144 *et seq.*, 42 U.S.C. 6831, the Act required the Department of Housing and Urban Development (HUD) to develop, promulgate, implement and enforce compliance with performance standards to improve the energy efficiency of all new buildings in the nation. On August 4, 1977, the Act was amended by Section 304(a), 42 U.S.C. 7154, of the Department of Energy Organization Act, Pub. L. 95–91, 91 Stat. 565 *et seq.*, which transferred from HUD to DOE the responsibility to develop and promulgate the standards. The amendments to the Act did not change HUD's implementation responsibilities.

In November 1979, DOE published proposed performance standards in the **Federal Register**, 44 FR 68120 (November 28, 1979). The notice was controversial and generated over 1,800 comments totalling 40,000 pages. The comments included technical and other substantive criticisms of the performance standards.

Less than a year after the publication of the proposed standards, the Act was again amended. Section 326, 94 Stat. 1649, of the Housing and Community Development Act of 1980, Pub. L. 96–399 (October 8, 1980) required that DOE promulgate interim standards by August 1, 1981 and extended the promulgation date of the final standards to April 1, 1983. The interim standards were only to apply to new Federal buildings. In addition, the Act required demonstration projects to be conducted in at least two geographical areas.

In August 1981, Congress again amended the Act. Subtitle D of Title 10 of the Omnibus Reconciliation Act of 1981, Pub. L. 97–35, 95 Stat. 621, amended the Act to create the term "voluntary performance standards", eliminated the provision for a possible statutory sanction for noncompliance, added a provision that, except for Federal buildings, "voluntary standards will be developed solely as guidelines to provide technical assistance for the design and construction of energy efficient buildings", and extended the deadline for DOE to furnish reports on the demonstration projects to Congress.

The legislative changes that have taken place since the original 1976 enactment required DOE to make fundamental changes to the compliance aspects of the standard regulatory approach which Congress had earlier directed the Department to take. DOE retains the responsibility for developing performance standards to achieve the maximum practicable improvements in energy efficiency and use of non-depletable resources for all new buildings. However, these standards now serve a dual purpose. The performance standards serve one purpose for the Federal sector where the standards prescribe mandatory design requirements. For non-Federal buildings, voluntary performance standards serve only as guidelines for the purpose of providing technical assistance for the design and construction of energy efficient buildings. Accordingly, the performance standards serve a second purpose of providing sound technical information and examples of efficient design practices for voluntary use in the private sector.

On August 20, 1986, the Department published in the **Federal Register** (51 FR 29754) proposed interim mandatory energy conservation performance standards for new Federal residential buildings. These proposed Federal residential standards were the first of three proposed interim standards; the second being the interim standards for commercial and high rise residential buildings being promulgated today. The Department also intends to publish voluntary interim standards for new non-Federal sector residential housing sometime in the future. DOE has completed a research project with the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE) that has culminated in recommendations being made to both DOE and ASHRAE on new residential building standards.

Following promulgation of these interim standards, DOE will undertake a demonstration project that will at minimum include an analysis of the impact of the standards on the design, construction costs, and the energy savings, including the types of energy to be realized from utilizing these energy standards. In addition, DOE will analyze the impact on residential builders, especially small builders and the impact of construction costs on the ability of low-and-moderate-income persons to purchase or rent units in such buildings.

The Act requires that the demonstration program has a duration of at least one year and that within 180 days of its completion, a report of the results from the demonstration program be sent to the Congress. The Act also requires that the standards be reviewed on a non-specific periodic basis and revised according to more recent information and research.

II. Description of the Interim Standards

A. Summary of the Interim Standards

The interim rule establishes interim energy conservation voluntary performance standards for the design of new commercial and multi-family high rise residential buildings. The interim standards reflect DOE's attempt to simplify compliance, incorporate an improved understanding of building component interactions that affect energy use, ensure architectural and engineering design flexibility, and encourage consideration of energy conserving design measures in the earliest stages of the design of commercial and multi-family high rise residential buildings.

The format is similar, but not identical, to that proposed in ANSI/ASHRAE/IES Standard 90.1P recommended for the design of new commercial buildings by the American Society of Heating Refrigerating and Air-Conditioning Engineers, Inc. and the Illuminating Engineering Society of North America (IES). Both the DOE interim standards and the proposed ANSI/ASHRAE/IES Standard 90.1P were developed based on a joint DOE/ASHRAE research project that culminated with the publication of the research findings in the **Federal Register** on January 26, 1984, (49 FR 3245 *et seq.*). Since the completion of the research project, the DOE and ASHRAE/IES

standards have followed a parallel track. ASHRAE/IES have provided, through their committee structure, much of the technical expertise that has been necessary in the development of the standards. DOE has provided complementary expertise and research results and has also been responsible for the majority of the technical analysis.

The format used is intended by DOE to facilitate the voluntary use of the interim standards by designers. DOE believes that the interim standards will make more obvious the interaction between the requirements for different building subsystems, permit increased designer flexibility, and produce more energy efficient and cost-effective commercial and multi-family high rise residential buildings.

The research employed to develop the interim standards comprised five major elements performed sequentially but with considerable overlap: (1) Evaluation of ANSI/ASHRAE/IES Standard 90A–1980 and the identification of its problem areas; (2) basic research to develop improvements; (3) the test for energy conservation and economic effectiveness, (4) the formulation of a Draft Standard that would provide the basis for proposed interim standards for Federal use concurrent with promoting its voluntary use in the private sector, and (5) extensive analysis of the provisions of the Draft Standard followed by additional research in key areas such as envelopes and lighting.

The provisions of ANSI/ASHRAE/IES Standard 90A–1980, the baseline standards, were evaluated by conducting a careful line by line review of the language, by investigating reported problems encountered in the application of the standards, and by rigorous testing of its energy and economic implications on 10 test buildings. This testing involved applying ANSI/ASHRAE/IES Standard 90A–1980 to ten real building designs. Plans for the buildings were re-configured for compliance with both ANSI/ASHRAE/IES Standard 90–75 and 90A–1980 in each of eight cities. DOE–2.1B, a computerized and verified analysis and research tool developed by DOE and widely used by building design groups, was used to evaluate and identify potential cost-effective improvements to ANSI/ASHRAE/IES Standard 90A–1980.

This evaluation of energy and economic impacts revealed numerous areas where the standards could be improved. Envelope requirements did not address the real energy issues in modern buildings and restricted designer flexibility. Many of the most important energy consumption determinants, such as external building orientation and configuration, glass placement, shading, and the need to match the envelope design to internal loads, were entirely ignored. The major problem associated with HVAC systems centered on system selection. Something needed to be done to encourage the selection of the most cost-effective and energy-efficient systems during the design process. In addition, a better way to apply the air transport factor to system design was needed. Also, the need to modify the lighting system requirements became apparent, with the more obvious changes being in the areas of compliance complexity and lower lighting power densities.

Following completion of the Draft Standard, DOE and ASHRAE/IES separately followed a path of additional research. Throughout this period, which began in 1984, DOE and ASHRAE/IES have jointly shared the information created from new research, public comments received on proposed drafts, and the rationale and analysis supporting responses to comments. Therefore, the DOE interim standards and the ANSI/ASHRAE/IES Standard 90.1P contain many similarities. However, the interim standards are written primarily for Federal agencies and are provided only as voluntary guidelines for the non-Federal sectors.

The interim standards contain minimum requirements that are mandatory for Federal agencies only. As such, the heads of Federal construction agencies must, within 180 days of today's promulgation, either adopt the interim standards or indicate that the standards currently in use by their agency meet or exceed the interim standards. In addition, Federal agencies are bound by the provisions of Subpart A of 10 CFR Part 436 that require the head of each Federal agency responsible for the construction of Federal buildings to assure that the decision-making process for the design of new buildings employs a specified methodology for estimating and comparing the life-cycle cost of Federal buildings and for determining life-cycle cost-effectiveness.

A more detailed description of the interim standards is presented below, together with discussion of certain specific comments from members of the public, as well as identification of technical changes that have been made to the proposed version of the interim standards.

B. Section by Section Analysis of the Interim Standards (With Major Technical Changes)

1. Section 435.097: Purpose

Section 435.097: The interim standards are designed to achieve the maximum practicable improvements in energy efficiency and increases in the use of non-depletable sources of energy. In addition, Federal agencies adopting energy conservation standards for new building construction must comply with Subpart A of 10 CFR Part 436, which requires that construction be life-cycle cost-effective.

These regulations provide that, except in the case of Federal buildings, use of the interim standards is voluntary. However, DOE recommends use of these interim standards for the design of energy efficient non-Federal new commercial and multi-family high rise residential buildings. The interim standards promulgated today will be used by a Federal agency for the design of a new commercial building or a multi-family residential building, of three or more stories, constructed by or for the use of a Federal agency.

2. Section 435.098: Scope

Section 435.098 provides that the design requirements do not apply to a commercial building or spaces within a commercial building with high process loads, manufactured homes, single family residences, and low-rise multi-family residential buildings of less than three stories.

In the proposed interim standards, buildings used for industrial purposes and spaces within buildings used for industrial and commercial processes that have substantial energy requirements unrelated to space conditioning and lighting were exempted. Many who commented felt that the terms industrial purpose and process were insufficiently defined. The Section has been rewritten by stating the conditions under which spaces used for industrial purposes and processes would be exempted.

Preliminary results of the analysis, conducted in developing the proposal, indicated that compliance with the provisions of the proposed interim standards will provide a range of 15% to 30% in annual energy savings to Federal agencies constructing office buildings, and smaller but still significant savings will be realized in other types of commercial building categories.

3. Section 435.099: General Definitions and Acronyms

Section 435.099 provides a listing of all the general definitions and acronyms used in the text of the proposed interim standards. Several definitions and acronyms have been added since the proposed interim standards were published. The additions were made in response to public comment requesting further clarification of terms used in the interim standards.

4. Section 435.100: Explanation of Numbering System for Standards

Section 435.100 provides an explanation of the unique numbering system used in the interim standards. The interim standards uses a combination of numbering systems employed by the Code of Federal Regulations and a system commonly used by voluntary standards organizations. The headings of each section will have a number, such as 435.109 which identifies the Service Water Heating Systems section. This number designates the section as a proposed section of Chapter II of Title of the Code of Federal Regulations. Within each section, a decimal system more common to the building industry is used, such as 9.4.2. This number identifies a specific subsection in Proposed Section 435.109. For purposes of clarity, the first five digits are dropped from the subsection number.

5. Section 435.101: Implementation and Compliance Procedures for Federal Agencies

This section prescribes the process for meeting the requirements of the proposed rule. It imposes the requirements of the interim standards on each Federal agency responsible for the construction of a Federal commercial or multi-family high rise residential building. The section does not necessarily apply to those in the non-Federal sector proposing to use the interim standards. It imposes both design requirements and a life-cycle costing requirement. The design requirements call for the designer to apply the general and specific Principles of Effective Energy Building Design, employ the minimum criteria for good practice prescribed in each proposed section from 3.0 through 10.0 and select an appropriate design compliance method.

The alternative compliance methods that a designer may choose from include prescriptive, system performance, and building energy cost budget or energy budget methods. The section provides suggested selection criteria for use of each of the paths. This criteria is merely instructional and the designer/builder has the option of the most suitable choice.

1. The prescriptive alternative specifies criteria for particular building elements, such as the attributes of the building envelope, lighting power allowances for specific building types, or the types of controls that must be used for HVAC system control.

2. The system performance alternative specifies criteria for the design of the load reduction, energy distribution, and energy-using and transfer systems of buildings. For lighting it provides a procedure for determining lighting power densities for specific spaces and areas. For the building exterior envelope, this section considers a number of factors important to energy conserving thermal and daylighting envelope design across a range of building functions and climates.

3. The two building energy alternatives provide for a building design whose calculated annual energy consumption is less than or equal to the calculated consumption of a building that meets the prescriptive or system performance requirements, but which does not meet the specific requirements of those compliance paths.

Section 435.101 also permits an interchangeable approach that permits a designer to select between the prescriptive and system performance methods. The selection of a compliance method requires consideration of the advantages and disadvantages of each method. The prescriptive alternative affords simplicity of calculations at the expense of design flexibility. The prescriptive criteria method requires the minimum amount of calculation and effort to achieve compliance, but permits only a few trade-offs or optimization procedures.

The system performance criteria can be the method of choice when a more innovative design is required, or when the prescriptive method does not provide the necessary flexibility. It requires some increased (manual) calculation compared with the prescriptive method. This method is expected to be particularly useful in locations where high electric demand or peak fuel consumption carry a high economic or social burden. This method requires the incorporation of lighting and HVAC controls to insure that, even though peak use is specified, the duration of use is also within acceptable bounds.

The building energy methods allow compliance with even the most innovative design concepts to meet the proposed interim standards. However, in most cases, it will require the use of a computer energy simulation program to model building energy use in accordance with the building loads and the proposed schedules of operation. The building energy methods are not interchangeable with the other compliance methods. Once selected, one or the other must be used consistently throughout the design process.

The widespread use of prescriptive criteria tends to inhibit the design of innovative and creative building subsystems since detailed component specifications are the basis of the criteria. The building energy methods of compliance are far more flexible, even though they are more demanding in terms of computations. However, the rapid promulgation of suitable micro-processor-based building energy programs is making this procedure suitable for an increasingly large number of smaller buildings.

The interim standards have already been analyzed for life-cycle cost-effectiveness and have been found to be cost-effective for the buildings tested. However, at the present time there is an additional life-cycle costing requirement that applies only to Federal agencies. It provides that:

> The head of each Federal agency responsible for the construction of Federal buildings shall also assure that the decision-making process for the design of the building shall employ the methodology for estimating and comparing the life-cycle cost of Federal buildings and for determining life-cycle cost-effectiveness prescribed in Subpart A of 10 CFR Part 436.

The language in Paragraph 1.1.2 of this Section merely calls attention to the existing Federal agency life-cycle costing requirements of Subpart A of 10 CFR Part 436. It does not add additional life-cycle costing requirements.

6. Section 435.102: Principles of Effective Energy Building Design

This section establishes the fundamental principles of energy conserving design practices and presents design strategies to help accomplish the objectives. It addresses the interactions among systems, a concept that is in fact ignored by component-based or system-based energy standards. The section was added to provide a framework for good design practices. It reflects DOE's recognition that the ultimate objective of energy efficient design requires a designer to make careful evaluations of energy requirements and use good professional judgment. The criteria found in § 435.102 are not minimum

requirements; rather they are guidance to the designer. The section provides the designer with additional information on the kinds of actions needed to develop an energy conserving building design.

The principles encouraging good design practice are stated as follows:

- Minimize the impact on functional requirements.
- Reduce loads.
- Reclaim waste energy where possible.
- Use non-depletable sources of energy where possible.
- Improve transport system efficiency.
- Improve energy using system efficiency.
- Control operation and scheduling of systems.
- Optimize the interaction of the above.

The design procedures and specific strategies that would be used to accomplish the conservation objectives that underlie the above principles are presented sequentially so as to roughly parallel the building design process. The specific strategies are found in each subsequent section.

7. Section 435.103: Lighting

This proposed section identifies the scope of the lighting requirements, principles for effective lighting design, minimum lighting criteria and the procedures for complying with either the prescriptive or system performance lighting requirements.

3.1 General. This subsection identifies the types of rooms, spaces and areas of a building that are included by the interim standards. Basically, only interior spaces, building exteriors and grounds where lighting is energized through the building's electrical service are covered by the standards. There are several exceptions to the types of spaces covered and a few of these, such as building exteriors and roads and grounds, and outdoor processing facilities, have been amended.

This subsection also identifies the Building or Facility Lighting Power Allowance for a proposed design, the procedures by which designers can take credit for Daylighting, and the requirements for compliance with the lighting section.

3.2 Principles of Design. The principles to be applied with respect to lighting include such strategies as:

- Reduction of actual demand load rather than just the apparent connected load.
- Use of more efficient lamps with appropriate luminous efficacy, life expectancy, spectrum distribution and color rendering characteristics. Also consideration of light distribution, glare control and visual characteristics.
- Use of more efficient ballasts for fluorescent and HID lamps.
- Use of luminaires with heat removal and heat recovery capabilities.
- Illumination required for tasks limited to the location of the task and from a direction that minimizes glare.
- Appropriate use of indirect lighting with schemes that create reasonably uniform ceiling luminances.
- Reduction of light absorption.
- Consideration of appropriate uses for daylighting, local task lighting or ambient lighting together with the proper use of controls.
- Limitations on the use of lower efficiency lamps.

Several editorial comments were made on this section and the majority of them included in the interim standards.

3.3 Minimum Requirements. Minimum requirements have been specified for the use of the following:

- Lighting controls; and
- Fluorescent lamp ballasts.

Lighting requirements for Exterior Lighting power have shifted to the prescriptive compliance path of Section 3.4. If the system performance path is chosen by a designer, Section 3.5 refers to the applicable exterior lighting subsection in Section 3.4 for criteria. The minimum requirements have been revised significantly from an editorial standpoint. The revisions will simplify the compliance process. Revisions include clarification of the compliance process, a reduction in the number of tables, and a straightforward explanation of the prescriptive and system performance compliance paths.

3.4 Prescriptive Compliance Alternative. This subsection provides a prescriptive procedure for determining the upper power limits for illumination systems installed inside and on the exterior of new commercial and multi-family high rise residential buildings. It also serves as a basis for calculating the lighting heat gain and energy usage of buildings. This method prescribes a maximum allowable unit power density for lighting by building type, for a limited number of building types as listed in specified tables. There is no recognition of specific makeup of spaces and activities within the building. The procedure is not to be used as a lighting design procedure but as a method of determining the lighting power limit.

Several editorial changes have been made on this subsection. The most prominent is the deletion of two subsections. The two, Lighting Equipment and Lamp Efficiency, were judged to be lacking in solid and documentable information. Although some felt that the proposed requirements were too stringent and others felt they were too lax, parties on both sides of the issue felt that the subsections were not appropriately placed in the prescriptive criteria. DOE has revised the principles section (3.2) to reflect the benefits of using luminaire and ballast efficiencies in the design of buildings and has placed the proposed tables in an attachment to the section as examples.

3.5 System Performance Compliance Alternative. This subsection spells out a system performance procedure for determining the upper lighting power limits for buildings, roads and grounds. It also provides a basis for calculating the lighting heat gain and energy usage of individual rooms, spaces and areas as well as the total building. The procedure used in this subsection is known as the Unit Power Density procedure and it establishes the lighting power limit for building interiors plus the lighting power allowance for building exteriors and roads/grounds. Once the lighting power limit for a building has been determined, the designer shall strive to design lighting systems that will provide effective and pleasing visual environment without exceeding the lighting power limit. No specific comments were raised on this section.

8. Section 435.104: Auxiliary Systems and Equipment

This section identifies the scope, principles and minimum requirements for auxiliary systems and equipment in buildings.

4.1 General. Even though their impact upon the internal loads of most buildings is usually limited, design principles and minimum requirements for auxiliary systems and equipment were found to be useful. DOE received three comments requesting the deletion of the entire section, but still believes the requirements are necessary. The minimum requirements for transportation and freeze protection systems and retail food and food service refrigeration are important because they effect significant energy using systems not covered elsewhere by standards. For example, the standards require that food refrigeration systems match capacity with loads and not be oversized, and also require heat recovery from such systems and apply them to space conditioning use where applicable.

4.2 Principles of Design. The principles of effective energy conserving design that are applicable to this system are contained in § 435.102, Principles of Effective Energy Conserving Building Design.

4.3 Minimum Requirements. The minimum requirements for auxiliary systems and equipment cover:

- Transportation systems;
- Freeze protection systems; and
- Retail food and food service refrigeration.

Minor changes have been made to paragraph 4.3.3.2 revising energy (heat) recovery requirements.

9. Section 435.105: Building Envelope

This section identifies the scope, design principles, minimum requirements, prescriptive and system performance methods for building envelopes.

5.1 General. The building envelope requirements of this subsection are for determining compliance with the interim standards. They are not intended to replace the building loads calculations procedures in publications such as the *ASHRAE Handbook, 1985 Fundamentals Volume.*

5.2 Principles of Design. The principles to be applied with respect to building envelope include such strategies as:

- Balancing of building loads between and among the internal and external loads.
- Control of conduction and convection.
- Control of radiation.
- Control of internal loads.
- Balancing and minimizing the thermal impact of equipment and appliances.
- Control of high ventilation loads.

DOE believes that the principles are an important feature of the envelope section of the interim standards because they provide designers with additional information on energy conservation strategies that cannot be quantified as part of the standards. In order to strengthen the principles section, DOE has made several editorial changes as suggested by those who commented. The most significant change was the deletion of paragraph 5.2.1.6.1. This paragraph was a description of how balance points are an integral part of building design. Several who commented on the interim standards found the paragraph extraneous and out of context, therefore it has been dropped.

5.3 Minimum Requirements. Minimum requirements for the building envelope have been set for the following:

- Overall Thermal Transmittance (U_o) of the Building Envelope Above Grade Assembly;
- A new paragraph on the Thermal Transmittance (R) of Each Individual Path of the Envelope Assembly;
- Thermal Transmittance (U_i) of an Individual Path through an Envelope Assembly, including Fenestration;
- Gross Area of Envelope Components;
- Shading Coefficients;
- Air Leakage and Moisture Migration; and
- Shell Buildings.

Several editorial changes were suggested by those who commented on the proposed interim standards. DOE appreciates the diligence with which these changes have been offered and has made many of the changes in the text.

5.4 Prescriptive Compliance Alternative. This subsection requires the use of Alternate Component Packages (ACP) that prescribe precalculated minimum criteria for elements of the exterior envelope of new commercial and multi-family high rise residential buildings in locations having less than 15,000 heating degree days (base 65 °F). The criteria consider variations important to thermal envelope design including fenestration, shading, thermal mass, daylighting, internal loads and climate ranges.

Several changes have been made to the ACP tables based on public comments and new research. The tables have been updated based on new available reserved data on thermal mass. These changes have primarily been for colder climates. In addition, the format of the ACP tables has been changed to allow all relevant information for a climate area to be placed on one table. In the proposed standards, the user would have had to refer to several tables. The language in this section has been modified to correspond with the new format of the ACP tables.

DOE received several comments that the Receptacle Power Densities in Table 5.4–30 (now Table 5.4–32) were too low based on the fact that U.S. buildings are equipped with an increasing number of electronic products. DOE was cognizant of this fact when the research to develop the interim standards was conducted and incorporated some sensitivity into its research. Based on the findings of its research it still believes that the receptacle power densities are adequate.

5.5 System Performance Compliance Alternative. This subsection provides a number of criteria important in energy conserving thermal envelope systems design across a range of building functions and climates. The system performance approach requires the application of specified criteria for the following factors:

- Roof Thermal Transmittance;
- Floor Thermal Transmittance;
- Thermal Transmittance for Walls Below Grade;
- Thermal Transmittance for Opaque Walls Enclosing Conditioned Spaces Exposed to Interior Unconditioned Spaces;
- External Wall Criteria for Heating and Cooling;
- Wall Heating and Cooling Compliance Values;
- Constraints on thermal transmittance values;
- Lighting and equipment power densities;
- Daylighting; and
- Thermal mass.

DOE received one comment complaining that the roof values are too low. DOE has analyzed the material provided in support of this comment and does not believe the commenter's recommendations are supported by the cited study because it does not provide enough relevant information on which to base the change. DOE, through its own research, believes that the roof values used correspond to good practice and are readily achievable.

10. Section 435.106: Electric Power and Distribution

This section identifies the scope, design principles, minimum requirements for the electric power and distribution system. Included are specific requirements for electrical distribution systems, transformers, electric motors, and operation and maintenance systems. It should be noted that the section has undergone many editorial changes. These changes reflect the amendments offered by those who commented. They were made to clarify the language used in the section. For example, language has been added to clarify electrical distribution requirements of multi-tenant buildings. Another modification clarifies the standards to be used in rating different types of electrical motors.

6.1 General. Emergency systems do not have to comply with the requirements of this section.

6.2 Principles of Design. The specific design principles to be applied with respect to electric power and distribution systems include such strategies as:

- Consideration of the sizing of transformers and generating units to assure that they are close to the actual anticipated load.
- Minimization of the use of distribution system transformers.
- Submetering of tenant facilities.

6.3 Minimum Requirements. Minimum electric power and

distribution requirements have been set for the following:

- Submetering of electrical distribution systems;
- Transformers;
- Electric motors; and
- Operation and maintenance of electrical systems.

11. Section 435.107: Heating, Ventilation and Air-Conditioning (HVAC) Systems

This section establishes the scope, design principles, minimum requirements, and prescriptive compliance requirements for heating, ventilating and air conditioning systems.

7.1 General. This subsection sets forth the design and performance requirements for building heating, ventilation, and cooling systems.

7.2 Principles of Design. The principles to be applied with respect to Heating, Ventilating and Air Conditioning (HVAC) systems include such strategies as:

- Control of equipment and high ventilation loads.
- Separating HVAC systems so as to serve areas which are expected to operate on different schedules, or have different temperature or humidity problems, etc.
- Sequencing of zone cooling and heating.
- Integration of air or water economizer cycles where appropriate.
- Provision of controls that permit systems to operate in either occupied or unoccupied modes.
- Design of energy transport systems to use the most efficient means possible from a priority list of options.

New paragraphs on radiant heating and energy recovery have been added to the principles of design because radiant heating can often be more effective than convective heating systems in some applications and for areas with high ceilings and for spot heating. Systems that recover heat can be used in place of larger systems that require more fossil fuel.

7.3 Minimum Requirements. Minimum requirements for the building's HVAC System have been set for the following:

- Calculation Procedures;
- System and Equipment Sizing;
- Separate Air Distribution Systems;
- Temperature Controls;
- Off-hour Controls;
- Humidity Controls; and
- Materials and Construction.

Please note that Tables 7.3–1, Minimum Pipe Insulation, and 7.3–2, Minimum Duct Insulation, have been revised to reflect updated information.

7.4 Prescriptive Compliance Alternative. This subsection provides the criteria for the design of the HVAC Systems using the prescriptive path. Prescriptive criteria is provided for the following:

- Zone controls;
- Economizer controls; and
- System design requirements.

A new § 7.4.6, System Temperature Reset Controls has been added.

12. Section 435.108: Heating, Ventilation, and Air-Conditioning (HVAC) Equipment

This section states the scope, design principles, minimum requirements, prescriptive and system performance methods for heating, ventilating and air conditioning equipment.

8.1 General. This subsection establishes design and performance requirements for HVAC equipment. It should be noted that while equipment efficiencies for 1984, 1988, and 1992 have been considered for this section, the rule requires Federal agencies to use the more stringent 1992 equipment efficiencies. HVAC equipment that meet the 1992 efficiencies are already on the market. By employing the more stringent efficiencies, the standards require that Federal agencies become a model for equipment energy efficiency.

8.2 Principles of Design. The principles to be applied with respect to HVAC Equipment include such strategies as:

- Allowance for HVAC equipment operation at the highest efficiency rates.
- Ascertainment of the rate of energy inputs and the heating or cooling outputs of all HVAC equipment.

8.3 Minimum Requirements. Minimum requirements for the building's HVAC Equipment have been set for the following:

- Equipment performance;
- Field assembled equipment and components;
- Equipment controls;
- Comfort heating equipment; and
- Maintenance.

As part of the section, minimum efficiencies have been established for a wide variety of HVAC options. These tables have been significantly changed since the publication of the proposed interim standards to reflect the provisions for residential HVAC equipment in the National Appliance Energy Conservation Act of 1987 and are based on public comment.

13. Section 435.109: Service Water Heating Systems

This section identifies the scope, design principles, minimum requirements, and prescriptive compliance method for service water heating systems and equipment.

9.1 General. This subsection establishes design and performance requirements for service water heating systems.

9.2 Principles of Design. The principles to be applied with respect to service water heating systems and equipment include such strategies as:

- Designing showerheads to balance user comfort with energy savings.
- Strategic location of water heaters.
- Use of heat exchangers to prevent high temperature condensate from turning to steam when returning to pump tanks.

9.3 Minimum Requirements. Minimum requirements for the building's service water heating systems and equipment have been set for the following:

- Sizing of systems;
- Equipment efficiencies;
- Piping insulation;
- Heat traps;
- Equipment temperature controls;
- Swimming pool water heaters;
- Combination service water heating/space heating equipment;
- Use of waste heat, solar energy and thermal storage;
- Equipment efficiencies of electric water heaters; and
- Additional equipment efficiency measures.

14. Section 435.110: Energy Management

This section identifies the scope, design principles and minimum requirements for energy management systems.

10.1 General. This subsection describes the general building data, the construction data and equipment data that must be provided to the building owner to foster good operation and management practices.

10.2 Principles of Design. Design principles and strategies include:

- Installation of energy management control systems with measurements at key points.
- Optimizing the design with careful system selection, realistic load predictions and full control provisions.
- Programming all loops and control actions so that building loads are satisfied while minimizing simultaneous use of heating and cooling energy.

10.3 Minimum Requirements. Minimum requirements have been set for the following:

- Energy measurement capability;
- Energy measurement instrumentation;
- HVAC System Controls;
- Central Monitoring and Control Systems;
- Completion Requirements;

- Energy Performance Testing; and
- Construction Documentation Data.

The Energy Management Section differs significantly from standards that are being reviewed by private sector organizations. It has much more stringent metering, monitoring, and testing requirements. This was done to provide agencies with information necessary to assure the building is operated at its designed efficiency and permit prompt identification and quantification of problems. It will also ensure that Federal agencies have the information on new buildings to meet their reporting responsibilities under Executive Order 12003 (June 20, 1977) and the National Energy Conservation Act of 1978, Pub. L. 95–619.

15. Section 435.111: Building Energy Cost Compliance Alternative

This section sets forth the requirements for using one of two alternative methods of whole building performance compliance. This alternative, as opposed to the one found in § 435.112, uses local monthly energy costs as a basis. It is particularly effective for builders of speculative or tenant occupied buildings. Compliance under this building energy path requires detailed energy analyses of the proposed design (referred to as the "design energy cost") and comparison against an energy cost budget. Compliance is achieved when the estimated design energy cost is less than or equal to the energy cost budget. Section 435.111 provides instructions for determining the budget and for calculating energy analysis of prototype or reference building designs configured to meet the prescriptive or systems requirements of the standards. It should be noted that the language in this section has been considerably revised since the publication of the proposed interim standards. The changes are editorial. They have been made to clarify the intent and compliance procedures of the section.

This approach allows a designer maximum flexibility in the design process, while ensuring that the building is designed to consume no more energy than is allowed under the other compliance paths. This path provides an opportunity for the energy conservation benefits of innovative designs, materials, and equipment to be used when they cannot be evaluated adequately under either the prescriptive or system performance procedures.

Building energy compliance analyses are not required for proposed designs that meet either the prescriptive or system performance compliance paths. This compliance path is one of four alternative paths. It may be used as an alternative for those designs that fail to meet either the prescriptive or system requirements of the ten previous sections.

Designers are encouraged to employ the proposed building energy compliance path set forth in this section for evaluating proposed design alternatives, in preference to using the prescriptive and system performance paths. Using this path enables the designer to establish the relative effectiveness of each design alternative in saving energy, thus providing a reliable energy basis upon which the building owner and designer may select one design over another.

16. Section 435.112: Building Energy Compliance Alternative

This section is constructed under the same basic approach as that found in § 435.111. It too provides an alternative path for compliance with the interim standards that allows flexibility in the design of buildings. However, compliance under this section is demonstrated by showing that the calculated annual energy usage for the proposed building design is equal to or less than a calculated design energy use target.

A life-cycle cost economic analysis is required to evaluate alternative fuel sources and energy reduction strategies. This analysis is used to determine the feasible alternatives for energy sources of the design's HVAC systems, service hot water and process loads. Fuel sources selected for the proposed design and prototype or reference buildings are determined by considering the energy cost and other cost and benefits that occur during the expected economic life of the alternative. The procedures set forth in Subpart A of 10 CFR Part 436 are used to make the determination. Once the analysis is completed, the user is directed to compare the total life-cycle cost of each energy source alternative. The alternative with the lowest total life-cycle cost must be chosen as the energy source for the proposed use. During the compliance process, when the proposed design is compared to the prototype or reference building, the same subsystems and fuel sources are used so that the subsystems of each correspond.

Table 12–1 contains fuel conversion factors for computing the energy budget for and the design annual energy use of the proposed design. In this compliance alternative, energy consumption is measured at the building five foot line for all fuels, therefore "site" rather than "source" conversion factors are specified for certain fuels in Table 12–1. This was done on the assumption that, in the equivalent energy consumption path, the comparison of proposed designs and prototype and reference buildings, with similar subsystems and fuel types, minimizes the influence of the conversion number. In addition, it was felt that architects and engineers were more familiar with "site" factors. However, it has been the policy of the Department to use "source" conversion factors when conducting national policy studies on fuel use and energy savings potential and when measuring the impact of energy conservation programs. This has been done because "site" factors do not account for the conversion and transmission losses inherent in the use of some fuels. This policy will continue with respect to national studies.

The same basic procedures used in § 435.111 are also used in § 435.112 with some minor exceptions. The design is defined by the energy that would be consumed within the five foot line of a proposed building per square foot over a 24 hour, 365-day year and specified operating hours. The estimated design energy use is then compared to a calculated energy use target determined by calculating the annual energy usage for a prototype or reference building that is configured to comply with the standards.

The approach would normally be favored by governmental entities and large owners who would be interested in tracking energy use over the life of a building.

III. Summary of Public Comment Received on the May 6, 1987, Notice of Proposed Rulemaking (NOPR) and DOE Responses

A. Summary

On May 6, 1987, DOE issued a Notice of Public Rulemaking (52 FR 17051 *et seq.*) to afford the public an opportunity to comment on the proposed interim standards for new commercial and multi-family high rise buildings. At the close of a 90 day comment period, DOE had received responses from 135 individuals, firms, and organizations. Many of the comments indicated a favorable response to the format used and the fact that DOE developed interim standards that were parallel and of similar technical content to those standards being developed by private sector organizations. Because most of those who commented had multiple comments, total comments numbered approximately 630. The comments dealt primarily with specific sections of the interim standards, although there were

some general comments. These comments are discussed below.

B. General Comments

1. Time Extension

DOE received three comments requesting an extension of the comment period. Those who commented indicated that the complexity of the proposed interim standards prevented an in-depth review and therefore requested additional time.

DOE Response: DOE considered an extension of time, but declined because of the relatively few number of requests indicating that most who wished to comment had sufficient time. Comments were received by all three requesting time extensions.

2. DOE Interim Standards vs. ANSI/ASHRAE/IES Standard 90.1P

DOE received sixteen comments related to the differences between the proposed interim standards and the proposed ANSI/ASHRAE/IES Standard 90.1P. Several who commented suggested that DOE employ the same consensus review and comment process used by ASHRAE. Another questioned the use of DOE standards as model energy codes. Many of those who commented suggested that DOE wait until the ANSI/ASHRAE/IES Standard 90.1P is finalized and then promulgate that standard verbatim. Finally, one person who commented suggested that DOE should be completely different from the ANSI/ASHRAE/IES standard because of the "controversy" surrounding that standard.

DOE Response: The interim standards are promulgated under a system adopted by the Federal government for all public rulemakings. This system dictates that any or all individuals or organizations are invited to provide comment on a Federal rulemaking.

It is not DOE's intention that the interim standards become model energy codes. Rather, they are established as guidelines from which model energy codes may be developed. As has been stated previously, the interim standards are mandatory only for Federal agencies and voluntary for the non-Federal sector.

DOE intends that the interim standards be complementary to the private sector standards established by voluntary industry organizations such as ASHRAE and IES. It does so because it believes that the nation is better served by consistent energy conservation standards. However, it recognizes that federal construction practice is somewhat different than that found in private industry. For example, financing processes and laws governing federal construction and building operation are quite different and require some unique considerations. Therefore, the DOE interim standards will not be the exact parallel of those standards prepared exclusively for other sectors.

Finally, DOE believes that the lengthy process to develop the interim standards was very valuable and that the interim standards are practical tools to help save energy. The computer aids that will be provided to interested entities as technical support documents greatly enhance the "usability" of the standards.

3. Practicality of Interim Standards

Six who commented questioned the practicality of the proposed interim standards. One said compliance was impossible. Others said it was overly complicated and would increase first-costs of buildings. Finally, another said it favored designs using natural gas for heating and was unfair to electricity.

DOE Response: The standards were prepared from an analytical standpoint. It was DOE's intention to address the complex interactions within a building, especially those within the building envelope and lighting systems. It was also important to develop several compliance paths in order to increase designer flexibility. This has led to standards that appear far more complex than earlier prescriptive standards. In fact the standards can be far less complicated because the designer must only choose one compliance path and because DOE has prepared several computer programs to assist in making the standard calculations of each component section.

4. "Site" vs. "Source" Energy

DOE received four comments on this issue. Three who commented favored "site" over "source" energy; the other preferred "source". The person opposed said that "site" favored electricity as a fuel.

DOE Response: DOE believes that the original decision to use life-cycle costing to select HVAC, service water heating, and process equipment fuels in § 12.0 remains valid. For this compliance alternative, it is also appropriate to only consider energy as it is delivered to within the five-foot line of the building site. Therefore, fuel selection is held constant for both the Prototype or Reference Building and the Proposed Design when determining compliance.

5. General Comments—Section 435.98

a. Process Energy Exception

DOE received four comments questioning the exclusion of buildings from the interim standards whose energy loads were not primarily for occupant comfort and sanitation purposes. Most of those who commented were confused by the wording used in the exclusion.

DOE Response: It is DOE's intent to include energy related to occupant comfort on sanitation (service hot water) with exceptions only where that criteria will result in significant impact on operations in the building that fall outside the intended scope of the interim standards. Section 435.98 has been revised to clarify the exclusion.

6. General Comments—Section 435.101

a. Standard Reporting Procedures

A comment was received requesting DOE to provide standardized reporting procedures for Federal agencies in their adoption of the interim standards.

DOE Response: The statutory mandate under which DOE promulgated the interim standards does not cover enforcement. Adoption and enforcement of the interim standards by Federal construction agencies is the responsibility of the heads of those agencies.

b. Cost-Effectiveness of the Interim Standards

DOE received four comments suggesting that language in § 435.101 be amended to require that the standards be life-cycle cost-effective as well as require the maximum practicable energy savings.

DOE Response: DOE agrees that cost-effectiveness is an important part of new building design criteria. However, its mandate was to establish standards that promoted energy savings to the maximum extent practicable. In conducting the research that led to the formulation of the interim standards, one requirement was that the redesigned buildings being tested have a life-cycle cost equal to or lower than a building designed to existing industry standards. Therefore, DOE believes that the interim standards do consider cost-effectiveness in their make-up. Additionally, as was mentioned previously, Federal agencies are required by Subpart A of 10 CFR Part 436 to conduct life-cycle cost analyses on each new building project. This requirement is listed in Section 435.101, paragraph 1.1.3.

7. General Comments—Section 435.103

a. Support for Proposed Lighting Standards

DOE received several comments on the general requirement levels of the lighting standards found in § 435.103. An equal number of those who commented felt that the standards were appropriate given current technology and design skills, as were those who were opposed to the levels. Those in favor cited several examples of designs that easily met the criteria. Those opposed mostly agreed that the levels were achievable given current technology, but that the skill level of most lighting designers was such that the lighting standards could not be universally met. Several of those opposed suggested the use of existing Illuminating Engineers Society of North America guidelines or that additional research be conducted.

DOE Response: DOE agrees that many of the key components of optimal lighting designs, given current technology, are still missing. These include more information on spectral composition of lamplight, a more thorough knowledge of lamp and ballast efficiencies and lighting maintenance, and the proper use of automatic lighting controls. However, DOE believes that the minimum levels specified in the interim standards for current implementation are well within the capability of lighting designers. Therefore, with few modifications, the minimum levels will stand as written.

b. Proposed 1992 Lighting Levels

In its proposed interim standards, DOE published minimum lighting levels for both 1987 and 1992. Several who commented were opposed to the use of 1992 levels as technically impractical and unsubstantiable. Others who commented were in favor of the 1992 levels. In fact, one who commented opposed the use of 1987 levels and would prefer that DOE utilize the proposed 1992 levels immediately.

DOE Response: DOE will retain the 1992 lighting levels in its interim standards. It is convinced that the levels are currently achievable by good designers with current technology and will certainly be broadly achievable beyond 1993 under programs of continued industry and professional education. However, in the interest of those opposed, DOE will change the effective date to 1993 and address the issue in-depth during the demonstration program phase that will follow today's publication of the interim standards.

c. Lighting Controls

DOE received several comments about lighting controls and switching requirements, and the credits allowed for automatic lighting controls. A few who commented stated that the number of switches to be required per unit of electricity was not economical. Others disagreed with requirements for switch and control placement. Still others disagreed with the ballast control requirements.

A few who commented felt that the credits for controls allowed in proposed Table 3.3–3 were excessive. Others commented that areas equipped with automatic controls should have manual override switches for individual work centers.

DOE Response: DOE believes that the lighting control requirements are equitable and has not made any changes to the number of controls required. It has, however, provided for some additional lighting control options and has made editorial changes to the standards where appropriate on the requirements and control placement. DOE also believes that the ballast efficacy factors are appropriate and has not made any changes to that subsection.

Based on research conducted by DOE at its Lawrence Berkeley Laboratory, DOE disagrees with the comment that the credits given for lighting controls in proposed Table 3.3–3 were excessive. Properly used with fluorescent lamps, controls can have a great effect on energy consumption. DOE does agree that controls used in conjunction with incandescent lamps are not as effective and therefore has not given credit for controls on incandescent lamps in new Table 3.3–1. DOE disagrees in concept with the comment on manual overrides because excessive manual overrides can diminish the expected energy conservation effect of the automatic controls. DOE has made some editorial changes that more clearly delineate the placement of manual controls to ease the concerns of the commenters.

d. Power Adjustment Factors

One commenter requested the addition of Power Adjustment Factor credits (proposed Table 3.3–4) for energy saving lamps, high efficiency conventional ballasts and electronic ballasts.

DOE Response: The purpose of the Power Adjustment Factor is to give credit for use of daylighting and other lighting strategies in the design of buildings. Since the interim standards are minimum standards, it is expected that the designer will use more efficient lighting and ballast technologies as they are cost beneficial.

e. Unit Lighting Power Allowances

Several comments were received in regard to proposed Table 3.4–3 (now Table 3.4–1), Unit Lighting Power Allowance, including a request to eliminate factory spaces, to reverse the allowances for fast food and leisure food dining, to provide better definitions for the building categories listed, and to place the lighting allowances at the minimum possible for maximum energy conservation.

DOE Response: DOE has eliminated the factory requirements as they may represent high process energy space which has been exempted from these interim standards. Please consult § 435.098, General Definitions and Acronyms for more information. DOE has further redefined the building categories found in Table 3.4–3 (now Table 3.4–1) by combining four retail building types into one category, retaining the mall concourse category, and adding a service establishment category. The building areas for each type now range up to 250,000 ft^2 rather than 35,000 ft^2. The lighting power allowances have been adjusted to reflect the new space categories. Also Unit Lighting Power allowances have been added for the year 1993 so that Table 3.4–1 would be consistent with the Unit Power Densities of § 3.5, the system performance criteria. DOE has not reversed the allowances for fast food and leisure dining as suggested because it believes that the order is correct.

f. Interior and Exterior Lighting Tradeoffs

Several comments were made concerning the tradeoffs between interior and exterior lighting found in proposed paragraph 3.4.4.2.

DOE Response: This language has been amended to consolidate all exterior lighting allowances into a single budget. Tradeoffs between interior and exterior allowances are still not allowed in an effort to keep exterior lighting at minimum necessary energy usage and so that interior lighting levels not suffer because of higher exterior levels.

8. General Comments—Section 435.105

a. Minimum Requirements in Envelope Section Not Regulatory Guidance

DOE received a few comments that stated that § 5.3 was a "philosophical engineering discourse" rather than minimum requirements.

DOE Response: DOE disagrees; while it is true that the section runs through several fundamentals of physics and

engineering, it also contains specific minimum requirements for the items listed above.

b. Use of °F (degrees Fahrenheit) vs. F° (Fahrenheit degrees)

Several who commented were opposed to the use of F° throughout the text of Section 5.0 and the rest of the proposed interim standards. Most were opposed because F ° is not used in common building and design practice, although it may be proper in a physics laboratory.

DOE Response: DOE agrees to make the change throughout the interim standards to maintain consistency in terminology and avoid confusion within the professions that will apply and implement the standards.

c. Buildings in Climates Greater Than 15,000 HDD65

DOE received several comments on the requirements for buildings designed for colder climates. Several suggested that the U_o values found in the envelope section for such buildings were incorrect. Others requested specific requirements for buildings over 10,000 HDD65 and 20,000 HDD65. A couple pointed out that the tables found in the system performance criteria section (Tables 5.5–1 through 5.5–4) did not have values for the colder climates. Another requested that skylights not be allowed in communities above 58 degrees north latitude.

DOE Response: DOE realizes that the specifications for colder climates were not complete in the proposed interim standards. In response, it has strengthened several paragraphs to correct the problems. Table 5.3–5, the requirements for locations with heating degree-days greater than 15,000, has been amended. Included as part of the amendment was a prohibition of skylights in locations of greater than 15,000 HDD65. Also, Tables 5.5–1 through 5.5–4 have been modified. Unfortunately, the lack of weather data for the colder climates prevents the adoption of more specific requirements.

d. Thermal Mass Credits

DOE received a few comments about the thermal mass credits. Some were in favor of retaining the credits and others were opposed. Most asked how the credits were determined.

DOE Response: There is a reference to the research that established the credits in Appendix D to § 435.105 entitled, "Rules for External Wall Criteria". The thermal mass analysis was documented in the peer reviewed paper "The Effects of Thermal Mass Exterior Walls on the Heating and Cooling Loads in Commercial Buildings" by Wilcox, et al., published in the proceedings of Thermal Performance of the Exterior Envelopes of Buildings III, DOE/ASHRAE/BTECC, December 1985, pp. 1187–1224.

The analysis of thermal mass effects was performed using the same buildings, operating assumptions, internal gain assumptions, and glazing characteristics as were used to study insulation, glazing U-value, glazing shading coefficient, daylighting and all the other aspects of the building envelope. Great care was taken to ensure that the analysis was consistent. DOE sees no reason to remove the only thermal mass aspect from the interim standards.

e. Vapor Retarders

One person who commented suggested more detailed specifications for vapor retarders.

DOE Response: DOE believes that the current criteria are adequate when viewed in conjunction with the referenced material for a national standard. Local climatic conditions may warrant more detailed criteria, but such criteria should not be imposed nationally.

f. Shell Buildings

Two comments were received which indicated that lighting power densities and equipment power densities for shell buildings, found in proposed Table 5.3–4 were too low.

DOE Response: They have been modified in the interim standards.

9. General Comments—Section 435.106

a. Opposition to Inclusion of Section

Several who commented on this section were opposed to one entire section of the interim standards being devoted to electric power. Their reasons included the belief that electricity had been treated differently than other fuels and that check-metering should be required for other fuel uses.

DOE Response: Because electrical energy is such a critical ingredient in our way of life, we must consider every means of conserving its use. The almost complete reliance on electrical energy by building subsystems is recognized by this separate section. The treatment is not intended to be discriminatory since other types of equipment are addressed in other sections of the interim standards. DOE has included requirements for other fuel types, including sub-metering requirements for natural gas, oil and steam, in §§ 8.0, 9.0, and 10.0. It believes the requirements of the interim standards have been designed to minimize burden and maximize benefits.

The technical provision for check-metering is intended to facilitate energy management and not to encourage a building owner to act as a utility and charge tenants for service. Such provisions do not constitute submetering, which may be in conflict with some local regulatory requirements. DOE also believes there is informational value to check-metering even where permanent metering is not warranted.

Metering and measurement are essential to the proper operation of the building, as well as for checking on energy consumption. While the interim standards do not and cannot address operation, they do attempt to provide the operator with the proper tools for good operation and maintenance. Not all operators and owners will operate the building systems in the most appropriate way but the increasing sophistication on the part of occupants and tenants is causing owners to be more aware of the need for proper operating practice.

b. Transformer Requirements

A few who commented found the transformer requirements of paragraph 6.3.2 burdensome. This paragraph recommends that transformer efficiency shall be considered in electrical distribution systems.

DOE Response: Transformers are a part of most such systems. Their no-load and part-load losses can be significant and should not be ignored.

c. Electric Motors

A couple who commented indicated that the electric motors covered by the interim standards serve a variety of applications and that some of the electric motors covered serve purposes that are inappropriate for energy efficient motors. They recommended that a section be added to address performance and use requirements other than efficiency to determine the choice of motor.

DOE Response: The purpose of the table is to provide minimum efficiency standards for motors and not to require high efficiency motors, therefore the section was not changed. However, reference has been made to a National Electrical Manufacturers Association publication for detailed design guidance.

10. General Comments—Section 435.107

a. Zoned Space Conditioning

A few who commented felt that DOE should recognize the benefits of zonal space conditioning for HVAC system design.

DOE Response: The interim standards in no way preclude zonal systems. In

fact, zonal systems inherently meet the provisions of § 435.107, as they provide separate air distribution systems to every zone. The purpose of the section is to discourage the use of large central systems serving zones with very different load characteristics and in that way actually encourages zonal systems.

b. Insulation Levels

A few who commented felt that insulation levels for piping and ductwork found in § 435.107 were below economic levels and should be increased.

DOE Response: The insulation requirements were based on an economic analysis to determine the insulation thickness that results in the lowest life-cycle cost. For example, Table 7.3–1 is a table of minimum insulation thicknesses listed as a function of fluid temperature range and nominal pipe size. For each fluid temperature range, a conductivity range is specified on which thicknesses in the Table were based. The conductivities represent a broad range of commercially available insulation products, including fiberglass and expanded foam.

c. Thermal Storage Systems for Comfort Cooling

One who commented on this section suggested that DOE was missing a conservation opportunity by not making more use of thermal storage systems for comfort cooling.

DOE Response: DOE has recognized the benefits of thermal storage systems for cooling and recommends, but does not require, them in § 435.108.

d. Economizer Cycles

A couple of commenters suggested that DOE investigate the increase in energy use caused by increased fan transport energy and the elimination of heat reclaimed from the building, based on its economizer cycle and variable air volume systems requirements.

One who commented suggested that an enthalpy economizer will show very little use in most of the country and if temperature controlled units are used, humidity control is completely lost. Another who commented felt that air economizer systems are not cost-effective for units smaller than 5,000 cfm. It was suggested that units with supply capacity of less than 3,000 cfm or total cooling capacity of less than 90,000 Btu/h should be changed to 5,000 cfm or 134,000 Btu/h.

DOE Response: DOE believes economizers are the most generally applicable and effective energy conservation measure to take advantage of cool and cold weather cooling requirements characteristic of commerical buildings. Heat recovery systems are only effective when heating loads occur simultaneously with cooling loads. Economizers reduce energy consumption both during cold weather and during mild weather when heating loads do not exist due to the generally high internal loads.

DOE agrees in part with the comment on enthalpy economizers and has revised the economizer control section to allow calculations to determine whether an enthalpy economizer is practical and useful in particular situations.

In regard to the comment on air economizers, economizer controls are readily and relatively inexpensively obtained for the size range required. For most unitary products of this size range, economizers are factory installed options. DOE determined that economizers would therefore be cost-effective in most applications.

e. Oversizing of Systems

A few who commented found that in setting design conditions, no penalty is given for maximizing of set-back and set-up temperature, therefore reasonable oversizing of the HVAC system is necessary. One who commented felt that an exception should be allowed for oversizing equipment in a building where planned future expansion could be better served from an existing system.

DOE Response: The only oversizing permitted is the 10% safety factor of § 7.3.1.9. The allowed 30% factor of § 7.3.1.10 is not oversizing but rather a simple and commonly used method for calculating pickup loads. Pickup is a load that a system must be designed to meet if setback is used and reasonable warmup times are to be achieved.

If a future expansion is designed at the time of the HVAC system design, then it could be considered part of the design load and not oversizing. However, it is believed that specific exceptions for future expansion would be too vague to be enforceable; the scope and timing of expansion could not be tightly designed.

11. General Comments—Section 435.108

a. Uniform Equipment Standards

It was felt by several that DOE should strive to establish equipment efficiency requirements at an acceptable high and uniform level, regardless of the equipment's fuel source. Accordingly, the interim standards should not attempt to dictate the type of energy or fuel selection for a particular application.

DOE Response: There seems to be the belief of some respondents that the interim standards discriminate against electric energy. DOE believes that the contrary is true. The interim standards recognize the almost complete reliance of building systems on electrical energy and provides equitable treatment for consideration of all energy sources. Because electric energy is such a key ingredient to our way of life, we need to consider means to conserve its use for long-term needs. Such conservation will certainly be required as these buildings go through their 40- to 50-year lifetimes, and varying degrees of energy scarcity are experienced.

b. Agreement with NAECA

Many who commented urged that the interim standards be revised to comply with the provisions of the National Appliance Energy Conservation Act (NAECA) of 1987.

DOE Response: The interim standards are now based on the provisions of NAECA.

c. DOE Use of 1992 Efficiency Requirements

In its interim standards, DOE has chosen to set efficiency levels at 1992 minimum levels. This means that DOE has chosen to forego 1988 levels for more stringent standards. A few who commented objected to these levels.

DOE Response: DOE contends that the standards are primarily for use by Federal agencies and that these agencies should become models for the rest of the nation and design the most efficient buildings possible in a life-cycle cost-effective manner. Since equipment bearing the 1992 efficiencies are currently available and considered cost-effective, Federal agencies are required to meet these efficiencies in all new construction. Because the standards are voluntary for the non-Federal sector, a choice can be made to utilize the 1988 equipment efficiencies found in proposed private sector standards.

d. Equipment Omitted From Interim Standards

DOE received several comments about equipment that have seemingly been omitted from the interim standards.

DOE Response: There is no intent to encourage or discourage the use of specific classes of equipment. Rather, those types of equipment not specifically included in § 435.108 may qualify under either of the two Energy Budget compliance paths, §§ 11.0 or 12.0.

e. Electric Resistance Heating

A few who commented felt that electric resistance heating was unfairly singled out because the only recommended use of electric resistance heat was as a supplement to heat pump operation.

DOE Response: In practice, any type (oil, gas, electric) fuel could be used to supplement heat pump operation and should be regulated to maximize system efficiency. Revisions have been made to the standards that allow the use of electric resistance heating in selected primary situations and that allow other electric, gas, and oil furnaces to supplement heat pump operation.

12. General Comments—Section 435.109

a. Minimum Service Hot Water Performance

Several comments were received concerning the minimum performance tables found in this section. Those who commented suggested that the service water heating standards comply with the provisions of the National Appliance Energy Conservation Act of 1987.

DOE Response: DOE agrees and has made the appropriate changes.

b. Standby Loss Requirements

DOE received a comment that the standby loss requirements in Table 9.3–1 for residential oil water heaters are far too stringent.

DOE Response: Current research results indicate that the levels of stringency are well below the current state-of-the-art, that substantial improvement in efficiency can be made, and that the efficiency requirements of the interim standards are defensible.

c. Heat Pump Water Heaters

Several comments were received that requested the elimination of requirements that a heat pump water heater be used in all applications of electric water heater where supply temperatures are under 145 °F.

DOE Response: The interim standards make no assumptions about the cost of electricity. Data and analysis reviewed by DOE show that heat pump water heaters can yield substantial improvements in efficiency compared to resistance heat that are almost always economical. Clearly, there are some conditions in which heat pump water heaters will not make economic sense, but no general prescriptions for such situations have been found.

d. Thermostat Controls

DOE received a few comments on the requirements for thermostatic controls for service water heating. One comment suggested that § 9.3.4.1 is a meaningless requirement; all automatic water heaters have temperature controls adjustable through a range of settings.

Other comments indicated concern that lowering water temperature would increase the likelihood of the production of organisms that cause diseases such as Legionnaires' Disease.

DOE Response: The requirement stands because some water heaters are incapable of settings as low as 90 °F. DOE believes that the low settings will provide substantial energy savings for most types of non-residential buildings. For residential dwelling water heaters that rarely are capable of settings below 110 °F, an exception is provided.

DOE agrees that the issues of health and safety are important and has raised the required thermostat settings to conform with health and safety standards.

e. Removable Showerhead Flow Restrictors

DOE received a comment advocating that the restrictions on using removable showerhead flow restrictors, in § 9.3.4.2, be amended to allow for their use. The rationale was that this requirement would eliminate the major portion of all showerheads manufactured today.

DOE Response: Since this is a design standard for Federal buildings, DOE will not make the change. DOE believes the potential for removal is so great that removable flow restrictors cannot be counted on unless some vandal-proof feature is required.

13. General Comments—Section 435.110

a. Minimum Requirements

DOE received a few comments concerning the requirements of this section, including a few that recommended that either additional guidance be provided on the use of central monitoring and control systems, or that the section be deleted. Other comments requested that DOE temper its requirements for post-construction testing for small buildings.

DOE Response: DOE has taken these comments under consideration and will examine them and other requirements of this section during the required demonstration period following promulgation of the Interim Standards.

b. Metering Requirements

DOE received a few comments that the metering requirements of § 435.110 are not apropos. The first of these deals is the misconception that DOE is exceeding its mandate by addressing utility metering. The second concerns the use of individual tenant meters; unless the individual tenant meters are required for billing purposes, the commenter felt that the additional expense for meters in government facilities is generally not justified. Finally, it is suggested that some smaller buildings be exempted from the requirement for cost reasons.

DOE Response: There seems to be a misunderstanding about the metering process required by § 435.110. It is not the intention of DOE to try to regulate utility meters. Rather it is DOE's intent to have each "distinct utility-provided fuel source" metered. The purpose of the system is to measure and record delivered energy so as to identify when and where design energy use is being significantly exceeded and to permit timely corrective action to be taken. Such meters will be used in analyzing and reporting energy use.

With respect to tenant metering, when tenants are of a single Federal agency and no separate billing is required, the agency is free to define tenants to avoid unjustified cost/benefit results.

Finally, DOE agrees that metering some small buildings would be overly costly and has amended the interim standards accordingly.

c. DOE Training for Federal Agencies

Throughout the comments, but most prominently in those comments directed towards § 435.110, requests were made for simplification of the compliance process.

DOE Response: As mentioned earlier, DOE intends to make available easy-to-use computer programs that will help in determining compliance with the lighting, envelope, HVAC, and service hot water sections of the interim standards. In addition, DOE would like to provide further guidance through educational workshops, seminars, etc. It is presently preparing a plan for the required demonstration program and will link its educational planning to the demonstration.

d. Exemption for Fossil Fuel Equipment

A few who commented requested revision to §§ 10.3.1 and 10.3.2 which require individual meters for fossil fuel equipment. The comments suggested that requiring individual meters for fossil fuel equipment in high rise apartment buildings is impractical and will slant installations to electric equipment.

DOE Response: DOE believes that the proposed metering is consistent with that for other fuels in the standard and has made no change in this requirement.

14. General Comments—Section 435.111

a. Deletion of § 435.111 and/or § 435.112

Several who commented suggested that DOE eliminate § 435.111, the "Building Energy Cost Compliance Alternative." Others commenting on § 435.112, the "Building Energy Compliance Alternative," suggest that DOE eliminate that section and leave only § 435.111. The disagreements center around the perceived reasons for the inclusion of two separate energy paths in the interim standards and the basis for each. Those who disagree with the use of § 435.111 see it as intended primarily for builders of speculative or tenant-occupied buildings. Compliance under this alternative uses local monthly energy costs as a basis. Their contention is that while the alternative does provide for more design flexibility, the annual energy cost calculations ignore life-cycle costs. Others contend that the alternative discriminates against electricity because it appears to be based on "source" energy.

Those suggesting that § 435.112 be retained and § 435.111 deleted, present counter-arguments. They contend that DOE should focus on developing a method of accounting for the energy lost in the production and transmission of each form of energy. Others complain that it will take a sophisticated computer user to contend with either path.

DOE Response: DOE disagrees with the basis for all these comments. It contends that neither path discriminates against any fuel types. Rather it has presented two different compliance alternatives, each that provides maximum design flexibility, that are easy-to-use, and that provide similar criteria no matter which alternative is chosen.

b. Modeling of Cogeneration

DOE received a comment on the modeling of cogeneration when using this section. The proposed interim standards did not permit the sale of energy off-site that was supplied by either cogeneration or renewable energy sources as a credit. It was contended that the paragraph will effectively eliminate the use of cogeneration and renewable energy systems power in new building design.

DOE Response: DOE has not changed its provision and contends that the section allows the use of cogeneration and renewable energy sources and it only precludes using the proceeds from resale of electricity as a means of offsetting energy consumption costs for the building.

c. Prototype Building Requirements

Several who commented oppose the § 11.5 requirements for a Prototype Building. The typical comment was that a Prototype Building will generally give an unrealistic comparison with the Proposed Design of the building. Most suggested that the use of the Reference Building only is more appropriate.

DOE Response: DOE believes that the Prototype Building default assumptions are needed to maintain consistency and to provide a standard means of comparison for all designers.

15. General Comments—Section 435.112

a. Update Life-Cycle Cost Requirements

It has been suggested by a couple who commented that DOE should amend its life-cycle cost procedures, 10 CFR Part 436, to include the necessary provisions for non-government buildings.

DOE Response: The life-cycle cost procedures, 10 CFR Part 436, are developed and intended for use by the Federal government only. They are part of the requirements of DOE's Federal Energy Management Program. DOE has no intention of incorporating a methodology for non-government buildings. It suggests that private sector use of this section base its life-cycle cost analysis on accepted procedures for private sector construction.

IV. Technical Support Documents: Micro-Computer Programs That Will Ease the Use of the Interim Standards

Along with the interim standards DOE will issue several technical support documents that will assist the users of the interim standards in determining compliance. Each program will be an exact duplicate of the requirements and the compliance calculations contained in the relevant sections of the interim standards. The computer programs include the following:

- Lighting Program, inclusive of the prescriptive path, system performance path, and the lighting requirements for roads and grounds;
- Two (2) Envelope Programs, one each for the prescriptive path (ACP Tables) and for the system performance path; and
- HVAC and Service Hot Water Program, inclusive of prescriptive requirements (there is no system performance path for these areas).

The technical support documents will be available from: National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161.

The computer programs have been written in the "C" computer language. The compiled versions of the programs will be provided on a 5¼ inch computer diskette, which will be accompanied by a user's manual. The programs will run on any MS–DOS compatible micro-computer, requiring only the MS–DOS operating system. A listing of the source code will also be provided on request to DOE.

To run the programs, the following equipment will be needed:

- An IBM–PC, –XT, or –AT; COMPAQ; or MS–DOS compatible micro-computer with at least 256K RAM memory, and a double-sided, double-density floppy disk drive or a double-sided, double-density floppy disk drive and a hard disk;
- A monochrome or color monitor;
- An 8087 or 80287 or equivalent math coprocessor (optional); and
- MS–DOS operating system, version 2.0 or later.

V. Procedural Requirements

A. National Environmental Policy Act

DOE prepared and issued on May 6, 1987, concurrently with the proposed interim standards, an Environmental Assessment (EA) of the proposed interim standards under the Implementing Regulations of the Council of Environmental Quality (CEQ) (40 CFR Parts 1500–1800) and the National Environmental Policy Act of 1969 (NEPA), as amended, (Pub. L. 91–190, 4221 *et seq.*), which requires agencies to conduct environmental assessments when their regulations constitute a significant Federal action. A *Finding of No Significant Impact* was issued in the **Federal Register** at 52 FR 17224 *et seq.* on May 6, 1987. The Environmental Assessment concluded that no significant impacts will result to the indoor or outdoor environments from implementing the Interim Voluntary Performance Standards for New Commercial and Multi-family High Rise Residential Buildings that are mandatory for Federal agencies. Based upon the findings in the Environmental Assessment, DOE determined the proposed interim standards do not constitute a major Federal action significantly affecting the quality of the human environment within the meaning of NEPA.

EPA Review: As required by section 7(a)(2), 15 U.S.C. 776(c)(2), of the Federal Energy Administration Act of 1974, 15 U.S.C. 761 *et seq.*, a copy of this proposed rule was submitted to the Administrator of the Environmental Protection Agency for comments on the impact of the interim rule on the quality of the environment. The following comments were provided:

The U.S. Environmental Protection Agency (EPA) supports the general goal of the rulemaking, which is to identify measures by which energy can be conserved. EPA has some specific comments concerning the potential environmental effects from radon within structures built to comply with DOE's performance standards.

The President signed the Indoor Radon Abatement Act on October 28, 1988. This law established a national goal that "air within buildings in the United States should be as free of radon as the ambient air outside of the buildings" and places a wide variety of new requirements on the EPA Administrator toward meeting this goal.

Several of the requirements established by the Act create areas of common interest between EPA and DOE with respect to the Interim Final Rule:

- Section 304 (Model Construction Standards and Techniques) requires the Administrator to "develop model construction standards and techniques for controlling radon levels within new buildings." This section also requires the Administrator to "work to ensure that organizations responsible for developing national model building codes * * * adopt the Agency's model standards and techniques." EPA believes that the DOE standards constitute a "national model building code."
- Section 309 (Study of Radon in Federal Buildings) requires all Federal agencies owning buildings to "conduct a study for the purpose of determining the extent of radon contamination in such buildings." This section also requires the Administrator to "identify and compile a list of areas * * * which have a high probability of including Federal buildings which have elevated levels of radon." This section also requires the Administrator to provide to the departments or agencies conducting studies guidance and related information concerning methods for reducing radon levels.

The public good is best served if EPA's radon related requirements and DOE's conservation requirements mesh smoothly. While these are not mutually exclusive requirements, there is no assurance that the pursuit of one will necessarily result in the accomplishment of the other. DOE's standards were initially developed before EPA's radon protection mandate was established by law. EPA recommends that the appropriate staffs of both agencies engage in some dialogue to ensure that DOE's standards do not result in construction requirements that later have to be modified to conform to EPA radon reduction guidance.

B. Executive Order No. 12291

Section 3 of Executive Order No. 12291, 46 FR 13193, February 19, 1981, requires that DOE determine whether a proposed rule is a "major rule" as defined by Section 1(b) of that Order, and prepare a preliminary regulatory impact analysis for rules which fall within that definition.

DOE prepared an "Economic Analysis," 52 FR 17065, May 6, 1987, wherein DOE reviewed the proposed Final Interim Rule. DOE has determined that the rule will not have an annual effect on the national economy of $100 million or more, nor certain other effects listed in the Order, and that the Final Interim Rule is not a "major rule" within the meaning of the Order.

The rule was submitted to the Director of the Office of Management and Budget for a 10-day review period as required by section 3(c)(3) of Executive Order No. 12291. The Director has concluded his review under that Executive Order.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act (5 U.S.C. 603, 604) requires DOE to calculate the effect its rulemaking will have on small businesses in the nation. DOE analyzed the small business impacts the rule would have, including its impacts upon manufacturers of building and construction materials and equipment, architects, builders, construction companies and utilities.

In accordance with the findings of Chapter 3 of the Economic Analysis, 52 FR 17065, May 6, 1987, DOE certifies that the Interim Energy Conservation Standards for New Commercial and Multi-Family High Rise Residential Buildings will not have significant impact on a substantial number of small entities.

D. Paperwork Reduction Act

No information collection or record keeping requirements are imposed on the public by the Final Interim Rule. Accordingly, authorizations are not required under the Paperwork Reduction Act, 44 U.S.C. 3501, *et seq.*, as amended, or its implementing regulations, 5 CFR Part 132.

E. Federalism Effects

Executive Order 12612, 52 FR 41685 (October 30, 1987), requires that regulations or rules be reviewed for any substantial direct effects on States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among various levels of government. If there are sufficient "substantial direct effects," then Executive Order 12612 requires preparation of a Federalism Assessment to be used in all decisions involved in promulgating and implementing a regulation or a rule. Sections 2 through 5 of Executive Order 12612 set forth the principles, criteria, and requirements to be used in preparing a Federalism Assessment.

The principal impacts of today's rule will be on commercial and multi-family high rise residential buildings constructed by the Federal government. These interim standards are being promulgated pursuant to legislation that states "except in the case of Federal buildings, voluntary performance standards shall be developed solely as guidelines for the purpose of providing technical assistance for the design and construction of energy efficient buildings." Therefore, the rule will not have a substantial direct effect on the States, the relationship between the States and Federal government, or distribution of the power and responsibilities among various levels of government.

F. Section 32 of the Federal Energy Administration Act of 1974

The interim rule references several building industry standards and requires building designers to use these standards in order to comply with the interim standards. As required by Section 32, 15 U.S.C. 788, of the Federal Energy Administration Act of 1974, 15 U.S.C. 761 *et seq.*, DOE must identify, by name, the organization that promulgated such standards and state whether the organization complied with the participatory requirements specified in the section.

The building industry standards referenced in the rule are listed below:

ANSI/NFPA 1970, National Electric Code, National Fire Protection Association, Quincy, MA 02269, 1987 revision.

ANSI/ASHRAE Standard 55–1981, Thermal Environmental Conditions for Human Occupancy, American Society of Heating, Refrigerating, and Air Conditioning Engineers, Inc., Atlanta, GA, 1981.

ARI Standard 310–87, Package Terminal Air Conditioners, Air Conditioning & Refrigeration Institute, Arlington, VA 22209, 1987.

ARI Standard 380–87, Packaged Terminal Heat Pumps, Air Conditioning & Refrigeration Institute, Arlington, VA 22209, 1987.

ANSI/AHAM RAC–1–1982, Room Air Conditioners, Association of Home Appliance Manufacturers, Chicago, IL 60606, 1982.

ARI Standard 240–86, Air Source Unitary Heat Pump Equipment, Air Conditioning & Refrigeration Institute, Arlington, VA 22209, 1986.

ARI Standard 320–86, Water Source Heat Pumps, Air Conditioning & Refrigeration Institute, Arlington, VA 22209, 1986.

ANSI/IEEE 112–1984, Polyphase Induction Motors and Generators, Test Procedures for,

Institute of Electrical and Electronics Engineers, New York, NY 10017, 1984.

ANSI/NEMA MG 1–87, Motors and Generators, National Electrical Manufacturers Association, Washington, DC 20037, 1987.

NEMA MG 10–83, Energy Guide for Selection and Use of Polyphase Motors, National Electrical Manufacturers Association, Washington, DC 20037, 1983.

ANSI C82.2–1984, Fluorescent Lamp Ballasts, Methods of Measurement of, American National Standards Institute, New York, NY 10018, 1984.

IES LM–41–1985, Approved Method For Photometric Testing of Indoor Fluorescent Luminaires, Illuminating Engineering Society of North America, New York, NY 10017, 1985.

IES LM–10–1983, Approved Method for Photometric Testing of Indoor Luminaires Using High-Intensity Discharge Lamps or Incandescent Filament Lamps, Illuminating Engineering Society of North America, New York, NY 10017, 1983.

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ASTM C236–80, Test Method for Steady-State Thermal Performance of Building Assemblies by Means of a Guarded Hot Box, ASTM, Philadelphia, PA 19103, 1980.

ASTM C276–82, Test Method for Thermal Performance of Building Assemblies by Means of a Calibrated Hot Box, ASTM, Philadelphia, PA 19103, 1982.

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ANSI/NWMA I.S.2–83, Wood Window Units, National Wood Window and Door Association (formerly the National Woodwork Manufacturers Association), Des Plaines, IL 60018, 1983.

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HVAC Duct Leakage Test Manual, 1st Ed., Sheet Metal and Air Conditioning Contractors Association, Vienna, VA 22180, 1985.

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ARI Standard 340–86, Commercial and Industrial Unitary Heat Pump Equipment, Air Conditioning & Refrigeration Institute, Arlington, VA 22209, 1986.

ARI Standard 360–86, Commercial and Industrial Unitary Air-Conditioning Equipment, Air Conditioning & Refrigeration Institute, Arlington, VA 22209, 1986.

ARI Standard 365–87, Commercial and Industrial Unitary Air-Conditioning Condensing Units, Air Conditioning & Refrigeration Institute, Arlington, VA 22209, 1987.

ARI Standard 590–86, Reciprocating Water-Chilling Packages, Air Conditioning & Refrigeration Institute, Arlington, VA 22209, 1986.

ARI Standard 550–86, Centrifugal or Rotary Water-Chilling Packages, Air Conditioning & Refrigeration Institute, Arlington, VA 22209, 1986.

ANSI A112.18.1M–1979, Finished and Rough Brass Plumbing Fixtures, American National Standards Institute, New York, NY 10018, 1979.

CTI Standard—201 (86), Certification Standard for Commercial Water Cooling Towers, Cooling Tower Institute, P.O. Box 73383, Houston, TX 77273, 1986.

ARI Standard 825–85, Ground Water-Source Heat Pumps, Air Conditioning & Refrigeration Institute, Arlington, VA 22209, 1985.

ARI Standard 210/240–84, Unitary Air-Conditioning and Air Source Heat Pump Equipment; Addendum 210/240–84, Air Conditioning & Refrigeration Institute, Arlington, VA 22209, 1984.

AGA Z21.13–82, Gas-Fired Low-Pressure Steam and Hot Water Boilers; Addenda Z21.13A–1983, American Gas Association, Cleveland, OH 44131, 1982.

ASME PTC 4.1–64, Steam Generating Units; Addendum PTC 4.1A–68, Addendum PTC 4.1B–69 (R–1985), New York, NY 10017, 1964.

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H.I. Testing & Rating Standard for Heating Boilers, Hydronics Institute, Berkeley Heights, NJ 07922, 1982.

AGA Z21.47–83, Gas-Fired Central Furnaces (Except Direct Vent and Separated Combustion System Furnaces); Addenda Z21.47A–1985, Addenda Z21.47B–1986, American Gas Association, Cleveland, OH 44131, 1983, 1986.

U.L. 727–86, Oil-Fired Central Furnaces, Underwriters Laboratories, Northbrook, IL 60062, 1986.

AGA Z83.8–85, Gas Unit Heaters; Addenda Z83.8A–1986, American Gas Association, Cleveland, OH 44131, 1985.

AGA Z83.9–86, Gas-Fired Duct Furnaces, American Gas Association, Cleveland, OH 44131, 1986.

U.L. 731–75, Oil-Fired Unit Heaters (R–1985), Underwriters Laboratories, Northbrook, IL 60062, 1975, revised 1985.

DOE finds that while each of the organizations listed promulgates its standards in a manner that allows for the response and critique of interested persons, none of the organizations follows procedures that meet all of the specific requirements of Section 32.

List of Subjects in 10 CFR Part 435

Architects, Building code officials, Buildings, Energy conservation, Energy conservation building performance standards, Engineers, Federal buildings and facilities, Housing, Insulation, and Voluntary performance standards.

In consideration of the foregoing, the Department of Energy hereby amends Part 435 of Chapter II of Title 10 of the Code of Federal Regulations by adding a new Subpart A as set forth below:

Dr. John R. Berg,

Assistant Secretary, Conservation and Renewable Energy.

10 CFR Part 435 is amended as follows:

PART 435—ENERGY CONSERVATION VOLUNTARY PERFORMANCE STANDARDS FOR NEW BUILDINGS; MANDATORY FOR FEDERAL BUILDINGS

1. The authority citation for 10 CFR Part 435 is revised to read as follows:

Authority: Energy Conservation Standards for New Buildings Act of 1976, as amended, (42 U.S.C. 6831–6870), enacted as Title III of the Energy Conservation and Production Act; (42 U.S.C. 8201 *et seq.*); (42 U.S.C. 8255); section 545, National Energy Conservation Policy Act; Department of Energy Organization Act, (42 U.S.C. 7101 *et seq.*).

2. A new Subpart A, consisting of §§ 435.97 through 435.112, is added to 10 CFR Part 435 to read as follows:

Subpart A—Voluntary Performance Standards for New Commercial and Multi-Family High Rise Residential Buildings; Mandatory for Federal Buildings

Sec.
435.97 Purpose.
435.98 Scope.
435.99 General definitions and acronyms.
435.100 Explanation of numbering system for standards.
435.101 Implementation and compliance procedures for Federal agencies.
435.102 Principles of effective energy building design.
435.103 Lighting.
435.104 Auxiliary systems and equipment.
435.105 Building envelope.
435.106 Electric power and distribution.
435.107 Heating, ventilation and air-conditioning (HVAC) systems.
435.108 Heating, ventilation, and air-conditioning (HVAC) equipment.
435.109 Service water heating systems.
435.110 Energy management.
435.111 Building energy cost compliance alternative.
435.112 Building energy compliance alternative.

Subpart A—Voluntary Performance Standards for New Commercial and Multi-Family High Rise Residential Buildings; Mandatory for Federal Buildings

§ 435.97 Purpose.

(a) This subpart establishes energy conservation voluntary performance standards for the design of new commercial and multi-family high rise residential buildings. The voluntary performance standards are designed to achieve the maximum practicable improvements in energy efficiency and increases in the use of non-depletable sources of energy.

(b) The voluntary performance standards will be used by Federal agencies for the design of new Federal commercial and multi-family high rise residential buildings.

(c) Except in the case of new commercial and multi-family high rise residential buildings, which are Federal buildings, voluntary performance standards prescribed under this subpart are developed solely as guidelines for the purpose of providing technical assistance for the design of energy efficient buildings.

§ 435.98 Scope.

(a) The voluntary performance standards for new commercial and multi-family high rise residential buildings apply to the design of a new commercial or multi-family high rise residential building, except for the following:

(1) A building constructed and developed for residential occupancy, unless the building is a multi-family high rise residential building with 3 or more stories;

(2) Heating, cooling, ventilating, or service hot water requirements for those spaces where processes occur for purposes other than occupant comfort and sanitation, and which impose thermal loads in excess of 5% of the loads that would otherwise be required for occupant comfort and sanitation without the process;

(3) Envelope requirements for those spaces where heating or cooling requirements are excepted in paragraph (a)(2) of this section;

(4) Lighting for tasks not listed or encompassed by areas or activities listed in Table 3.5–1; and

(5) Buildings that are composed entirely of spaces listed in paragraphs (a) (2), (3), and (4) of this section.

§ 435.99 General definitions and acronyms.

(a) For the purpose of this subpart:

"Accessible (as applied to equipment)" means admitting close approach; not guarded by locked doors, elevation, or other effective means. (See also *Readily Accessible.*)

"Adjusted Lighting Power" means lighting power, ascribed to a luminaire(s), that has been reduced by deducting a lighting power control credit based on use of an automatic control device.

"Annual Fuel Utilization Efficiency" means the ratio of annual output energy to annual input energy that includes any non-heating season pilot input loss.

"Air Conditioning, Comfort" means treating air to control its temperature, relative humidity, cleanliness, and distribution to meet the comfort requirements of the occupants of the conditioned space. Some air conditioners may not accomplish all of these controls.

"Ambient Lighting" means lighting that produces general illumination throughout an area.

"Area Factor" means a multiplying factor that adjusts the base unit power density (UPD) for spaces of various sizes to account for the impact of room configuration on lighting power utilization.

"Automatic" means a self-acting, operating by its own mechanism, when actuated by some impersonal influence, such as, a change in current strength, pressure, temperature or mechanical configuration. (See also *Manual.*)

"Ballast" means a device used with an electric-discharge lamp to obtain the necessary circuit conditions (voltage, current, and wave form) for starting and operating.

"Ballast Efficacy Factor—Fluorescent" means the ratio of the relative light output to the power input in watts, at specified test conditions, expressed as a percent.

"Ballast Factor" means the ratio of a commercial ballast lamp lumens to a reference ballast lamp lumens, used to correct the lamp lumen output from rated to actual.

"Boiler Capacity" means the rated heat output in Btu/h of the boiler, at the design inlet and outlet conditions and rated fuel/energy input.

"British Thermal Unit" means approximately the amount of heat required to raise the temperature of one pound of water from 59 °F to 60 °F.

"Building" means any new structure to be constructed that includes provision for a heating or cooling system, or both, or for a hot water system.

"Building Code" means a legal instrument which is in effect in a state or unit of general purpose local government, the provisions of which must be adhered to if a building is to be considered to be in conformance with law and suitable for occupancy and use.

"Building Design" means the architectural and engineering drawings and specifications used for the construction of a new building.

"Building Energy Cost" means the computed annual energy cost of all purchased energy for the building, calculated using the methods of Section 435.111 of these standards.

"Building Envelope" means the elements of a building that enclose conditioned spaces through which thermal energy may be transferred to or from the exterior or to or from unconditioned spaces.

"Building Type" means the classification of a building by usage. In this regulation the following classifications of buildings are defined by these uses:

(1) "Assembly" means a building or structure for the gathering together of persons, such as auditoriums, churches, dance halls, gymnasiums, theaters, museums, passenger depots, sports facilities, and public assembly halls.

(2) "Health and Institutional" means a building or structure for the purpose of providing medical treatment, confinement or care, and sleeping facilities such as hospitals, sanitariums, clinics, orphanages, nursing homes, mental institutions, reformatories, jails, and prisons.

(3) "Hotel/Motel" means a building or structure for transient occupancy, such as resorts, hotels, motels, barracks, and dormitories.

(4) "Multi-Family" means a building or structure containing three or more dwelling units. (See *Dwelling Units*, and *Multi-Family Dwelling*.)

(5) "Office (Business)" means a building or structure for office, professional, or service type transactions, such as medical offices, banks, libraries, and business offices, including governmental office buildings.

(6) "Restaurant" means a building or a structure for the consumption of food or drink, including fast food, coffee shops, cafeterias, bars, and restaurants.

(7) "Retail (Mercantile)" means a building or a structure for the display and sale (wholesale or retail) of merchandise, such as shopping malls, food markets, auto dealerships, department stores, and specialty shops. (See also *Retail Establishments*.)

(8) "School (Educational)" means a building or structure for the purpose of instruction, such as schools, colleges, universities, and academies.

(9) "Warehouse (Storage)" means a building or structure for storage, such as aircraft hangers, garages, warehouses, storage buildings, and freight depots.

"Check Metering" means measurement instrumentation for the supplementary monitoring of energy (electric, gas, oil, etc.) consumption, in addition to the revenue metering furnished by the utility, to isolate the various categories of energy use to permit conservation and control.

"Coefficient of Performance—Cooling" means the ratio of the rate of heat removal to the rate of energy input in consistent units, for a complete cooling system or factory assembled equipment, as tested under a nationally recognized standard or designated operating conditions.

"Coefficient of Performance, Heat Pump—Heating" means the ratio of the rate of heat delivered to the rate of energy input, in consistent units, for a complete heat pump system under designated operating conditions. When checking compliance with the heat pump equipment COP's listed in the tables in Section 435.108.

"Combined Thermal Transmittance Values" (See *Thermal Transmittance, Overall*.)

"Commercial Building" means a building other than a residential building, including any building developed for industrial or public purposes.

"Conditioned Floor Area" means the area of the conditioned space measured at floor level from the interior surfaces of the walls.

"Conditioned Space" means a volume within a building that is designed to be heated and/or cooled, directly or indirectly.

"Connected Lighting Power" means the power required to energize luminaires and lamps installed and connected to the building electrical service, in watts.

"Control Loop, Local" means a control system consisting of a sensor, a controller, and a controlled device.

"Cooled Space" means an enclosed area within a building that has a refrigeration system whose sensible capacity exceeds 5 Btu/h·ft² or is capable of maintaining space dry bulb temperatures of 90 °F or less at design cooling conditions.

"Daylight Sensing Control" means a device that automatically regulates the power input to electric lighting near the fenestration to maintain the desired workplace illumination, thus taking advantage of direct or indirect sunlight.

"Dead Band (Dead Zone)" means the range of values within which an input variable can be varied without initiating any noticeable change in the output variable.

"Default Assumption" means the value of an input used in a calculation procedure when a value is not entered by the designer.

"Degree-Day" means a unit, based upon temperature difference and time, used in estimating fuel consumption and specifying nominal heating load of building in winter. For any day, when the mean temperature is less than a reference temperature, typically 65 °F, there are as many Degree-Days as Fahrenheit degrees difference in temperature between the mean temperature for the day and the reference temperature.

"Degree Day, Cooling" means a unit, based upon temperature difference and time, used in estimating cooling energy consumption. For any one day, when the mean temperature is more than a reference temperature, typically 65 °F, there are as many Degree Days as degrees Fahrenheit temperature difference between the mean temperature for the day and the reference temperature. Annual Cooling Degree Days (CDD) are the sum of the degree days over a calendar year.

"Degree Day, Heating" means a unit, based upon temperature difference and time, used in estimating heating energy consumption. For any one day, when the mean temperature is less than a reference temperature, typically 65 °F, there are as many Degree Days as degrees Fahrenheit temperature difference between the mean temperature for the day and the reference temperature. Annual Heating Degree Days (HDD) are the sum of the degree days over a calendar year.

"Demand (Electric)" means the rate at which electric energy is delivered to or by a system, part of a system, or a piece of equipment; expressed in kilowatts, kilovoltamperes; or other suitable units at a given instant or averaged over any designated period.

"Design Conditions" means the exterior and interior environmental parameters specified for air conditioning and electrical design for a facility.

"Design Energy Consumption" means the computed annual energy usage of a proposed building design.

"Design Energy Costs" means the computed annual energy expenditures of a proposed building design.

"Dwelling Unit" means a single housekeeping unit comprised of one or more rooms providing complete, independent living facilities for one or more persons including permanent provisions for living, sleeping, eating, cooking, and sanitation.

"Economizer, Air" means a ducting arrangement and automatic control system that allows a cooling supply fan system to supply outside air to reduce or eliminate the need for mechanical refrigeration during mild or cold weather.

"Economizer, Water" means a system by which the supply air of a cooling system is cooled directly and/or indirectly by evaporation of water, or by other appropriate fluid, in order to reduce or eliminate the need for mechanical refrigeration.

"Efficiency, HVAC System" means the ratio of the useful energy output (at the point of use) to the energy input in consistent units for a designated time period, expressed in percent.

"Emergency System (Back Up System)" means a system which exists for the purpose of operating in the event of failure of a primary system.

"Energy" means the capability for doing work; having several forms that may be transformed from one to another, such as thermal (heat), mechanical (work), electrical, and chemical.

"Energy Cost" means the annual cost of energy by unit and type of energy.

"Energy Cost Budget" means the maximum allowable computed annual energy expenditure for a proposed building.

"Energy Efficiency Ratio" means the ratio of net equipment cooling capacity in Btu/h to total rate of electric input in watts under designated operating conditions. When consistent units are used, this ratio becomes equal to COP. (See also *Coefficient of Performance*.)

"Energy Management System" means a control system designed to monitor the environment and the use of energy in a facility and to adjust the parameters of local control loops to conserve energy while maintaining a suitable environment.

"Energy, Recovered" (See *Recovered Energy.*)

"Enthalpy" means a thermodynamic property of a substance defined as the sum of its internal energy plus the quantity PV/J, where P=pressure of the substance, V=its volume, and J=the mechanical equivalent of heat; formerly called total heat and heat content.

"Exterior Envelope" (See *Building Envelope.*)

"Fenestration" means any light-transmitting section in a building wall or roof. The fenestration includes glazing material, which may be glass or plastic; framing, mullions, muntins, and dividers; external shading devices; internal shading devices, and integral (between-glass) shading devices.

"Federal Agency" means any department, agency, corporation, or other entity or instrumentality of the executive branch of the Federal Government, including the United States Postal Service, the Federal National Mortgage Association, and the Federal Home Loan Mortgage Corporation.

"Federal Building" means any building to be constructed by, or for the use of, any Federal Agency which is not legally subject to State or local building codes or similar requirements.

"Footcandle" means the unit of illuminance on a surface one square foot in area on which there is a uniformly distributed flux of one lumen, or the illuminance produced on a surface all points of which are at a distance of one foot from a directionally uniform point source of one candela.

"General Lighting" means lighting designed to provide illumination throughout an area, exclusive of any provision for special local requirements.

"Gross Floor Area" means the sum of the areas of the several floors of the building, including basements, mezzanine and intermediate-floored tiers and penthouses of headroom height, measured from the exterior faces of exterior walls or from the centerline of walls separating buildings, but excluding covered walkways, open roofed-over areas, porches and similar spaces, pipe trenches, exterior terraces or steps, chimneys, roof overhangs, and similar features.

"Gross Lighted Area" means the sum of the total lighted areas of a building measured from the inside of the perimeter walls, for each floor of the building.

"Gross Roof Area" means the total surface of the roof assembly exposed to the outside air, including all roof/ceiling and skylight components through which heat may flow between indoor and outdoor environments, excluding service openings.

"Gross Exterior Wall Area" means the total surface of the wall assembly exposed to the outside air and enclosing a heated or cooled space consisting of opaque surfaces, including between floor spandrels, peripheral edges of flooring and window areas including sash and door areas but excluding vents, grilles, and pipes.

"HVAC System" means the equipment distribution network and terminals that provide either collectively or individually the processes of heating, ventilating, and/or air conditioning to a building.

"HVAC System Efficiency" (See *Efficiency, HVAC System.*)

"Heat" means the form of energy that is transferred by virtue of a temperature difference or a change in state of a material.

"Heat Capacity" means the amount of heat necessary to raise the temperature of a given mass one degree. Numerically the mass multiplied by the specific heat.

"Heated Space" means a volume within a building which is provided with a positive supply of thermal energy by a system whose output capacity either exceeds 10 Btu/h·ft ^{2} or is capable of maintaining a space dry-bulb temperature of 50 °F or more at design building conditions.

"Heating System Performance Factor" means the total heating output of a heat pump during its normal annual usage period for heating, in Btu, divided by the total electric energy input during the same period, in watt-hours.

"Heat Trap" means a device coupled to the inlet and outlet of a water heater that effectively restricts the natural tendency of hot water to rise in the vertical pipe during periods of standby.

"Humidistat" means an automatic control device responsive to changes in humidity.

"Illuminance" means the density of the luminous flux incident on a surface. It is the quotient of the luminous flux multiplied by the area of the surface when the latter is uniformly illuminated. (See also *Footcandle.*)

"Industrial Process" means any manufacturing or other process whose energy requirements are not primarily intended to contribute to the heating, cooling, lighting, ventilation, or service hot water energy load requirements of the building.

"Infiltration" means the uncontrolled inward air leakage through cracks and crevices in any building element and around windows and doors of a building.

"Insolation" means the rate of solar energy incident on a unit area with a given orientation.

"Integrated Part-Load Value" means a single number figure of merit for airconditioning and heat pump equipment based on weighted operation at a set of less than full capacities for the equipment.

"Lighting Power Budget" means the lighting power, in watts, allowed for an interior or exterior area or activity.

"Lighting Power Control Credit" means the amount of interior connected lighting power which may be added to the Interior Lighting Power Allowance for lights in a space which is turned off or dimmed by automatic control devices.

"Lumen" means SI unit of luminous flux. Radiometrically, it is determined from the radiant power. Photometrically, it is the luminous flux emitted within a unit solid angle (one steradian) by a point source having a uniform luminous intensity of one candela.

"Lumen Maintenance Control" means a device that senses the illumination level and causes an increase/decrease of illuminance to maintain a preset illumination level.

"Luminaire" means a complete lighting unit consisting of a lamp or lamps together with the parts designed to distribute the light, to position and protect the lamps, and to connect the lamps to the power supply.

"Luminaire Efficiency" means the ratio of luminous flux (lumens) emitted by a luminaire to that emitted by the lamp or lamps used therein.

"Manual (Non-Automatic)" means action requiring personal intervention for its control. As applied to an electric controller, non-automatic control does not necessarily imply a manual controller, but only that personal intervention is necessary. (See *Automatic.*)

"Marked Rating" means the design load operating conditions of a device as shown by the manufacturer on the nameplate or otherwise marked on the device.

"Minimum Life Cycle Cost Methodology" means the methodology specified in Subpart A of 10 CFR Part 436.

"Motor Efficiency, Nominal" means the median efficiency occurring in a population of motors of the same manufacturer and rating.

"Multi-Family High Rise Residential Building" means a residential building containing three or more dwelling units

and is designed to be 3 or more stories above grade.

"Multi-Family Low Rise Residential Building" means a residential building containing three or more dwelling units and is designed not to exceed two stories above grade.

"Non-Depletable Energy Sources" means sources of energy, excluding minerals, derived from incoming solar radiation; thermal chemical or electrical energy derived directly from conversion of incident solar radiation; wind, waves and tides, lake, or pond thermal differences; and energy derived from the internal heat of the earth.

"Occupancy Sensor" means a device that detects the presence or absence of people within an area and causes lighting, equipment, and/or appliances to be adjusted accordingly.

"Opaque Areas" means all exposed areas of a building envelope which enclose conditioned space, except fenestration areas and building service openings, such as vents, grilles, and pipes.

"Orientation" means the directional placement of a building on a building site with reference to the building's longest horizontal axis, or, if none, with reference to the designated main entrance.

"Outdoor (Outside) Air" means air taken from the exterior of the building that has not been previously circulated through the building. (See also *Ventilating Air.*)

"Ozone Depletion Factor" means a relative measure of the potency of chemicals in depleting stratospheric ozone. The ozone depletion factor potential depends upon the chlorine and the bromine content and atmospheric lifetime of the chemical. The depletion factor potentials are normalized such that the factor for CFC–11 is set equal to unity and the factors for the other chemicals indicate their potential relative to CFC–11.

"Packaged Terminal Air-Conditioner" means a factory-selected wall sleeve and separate unencased combination of heating and cooling components, assemblies or sections, intended for mounting through the wall to serve a single room or zone. It includes heating capability by hot water, steam, or electricity.

"Packaged Terminal Heat Pump" means a PTAC capable of using the refrigeration system in a reverse cycle or heat pump mode to provide heat.

"Piping" means a system for conveying fluids, including pipes, valves, strainers, and fittings.

"Plenum" means an enclosure that is part of the air handling system and is distinguished by having a very low air velocity. A plenum often is formed in part or in total by portions of the building.

"Power" means, in connection with machines, the time rate of doing work; in connection with the transmission of energy of all types, the rate at which energy is transmitted; in inch-pound units, is measured in watts (W) or British thermal units per hour (Btu/h).

"Power Adjustment Factor" means a modifying factor that adjusts the effective connected lighting power of a space to account for the use of energy conserving lighting control devices.

"Power Factor" means the ratio of total watts to the root-mean-square (RMS) volt amperes.

"Prescribed Assumption" means a fixed value of an input to the standard calculation procedure.

"Process Energy" means energy consumed in support of a manufacturing, industrial, or commercial process, other than the maintenance of comfort and amenities for the occupants of a building.

"Process Load" means the calculated or measured time-integrated load on a building resulting from the consumption or release of process energy.

"Proposed Design" means a prospective design for a building that is to be evaluated for compliance.

"Prototype Building" means a generic building design of the same size and occupancy type as the proposed design, which complies with the prescriptive requirements of the standards and has prescribed assumptions used to generate the energy budget concerning shape, orientation, HVAC, and other system designs.

"Public Facility Restroom" means a restroom used by the transient public.

"Radiant Comfort Heating" means a system in which temperatures of room surfaces are adjusted to control the rate of heat loss by radiation from occupants.

"Readily Accessible" means capable of being reached quickly for operation, renewal, or inspections, without requiring those to whom ready access is requisite to climb over or remove obstacles or to resort to portable ladders, chairs, and so on. (See also *Accessible.*)

"Recooling" means lowering the temperature of air that has been previously heated by a heating system.

"Recovered Energy" means energy utilized which would otherwise be wasted (not contributing to a desired end use) from an energy utilization system.

"Reference Building" means a specific building design that has the same form, orientation and basic systems as the proposed design and meets all the criteria of the prescriptive compliance method.

"Reflectance" means the ratio of the light reflected by a surface to the light incident upon it.

"Reheating" means raising the temperature of air that has been previously cooled either by a refrigeration or an economizer system.

"Reset" means adjustment of the controller set point to a higher or lower value automatically or manually.

"Residential" means any structure which is constructed and developed for residential occupancy.

"Retail Establishments" means, for the purpose of determining lighting power limit, buildings, the primary functions of which are designed to be:

(1) Type A—Jewelry Merchandising, where the minute display and examination of merchandise is critical.

(2) Type B—Fine Merchandising: Fine apparel and accessories, china, crystal and silver, art galleries, etc., where the detailed display and examination of merchandise is important.

(3) Type C—Mass Merchandising, where focused display and detailed examination of merchandise is important.

(4) Type D—General Merchandising: General apparel, variety, stationery, books, sporting goods, hobby, cameras, gift, luggage, etc., where general display and examination of merchandise are adequate.

(5) Type E—Food & Miscellaneous: Bakeries, hardware and housewares, grocery, appliances and furniture, etc., where appetizing appearance is important.

(6) Type F—Service Establishments, where functional performance is important.

"Roof" means those portions of the building envelope including all opaque surfaces, fenestration, doors, and hatches which are above conditioned space and which are horizontal or tilted at less than 45° from horizontal. (See also *Walls.*)

"Room Air Conditioner" means an encased assembly designed as a unit to be mounted in a window or through a wall, or as a console. It is designed primarily to provide free delivery of conditioned air to an enclosed space, room, or zone. It includes a prime source of refrigeration for cooling and dehumidification and means for circulating and cleaning air, and may also include means for ventilating and heating.

"Seasonal Energy Efficiency Ratio" means the total cooling output of an air conditioner during its normal annual

usage period for cooling, in Btu/h, divided by the total electric energy input during the same period, in watt-hours, as determined by 10 CFR, Part 430.

"Service Systems" means all energy-using or distributing components in a building that are operated to support the occupant or process functions housed therein, including HVAC, service water heating, illumination, transportation, cooking or food preparation, laundering or similar functions.

"Service Water Heating" means the supply of hot water for purposes other than comfort heating and process requirements.

"Service Water Heating Demand" means the maximum design rate of water withdrawal from a service water heating system in a designated period of time (usually an hour or a day).

"Shading Coefficient" means the ratio of solar heat gain through fenestration, with or without integral shading devices, to that occurring through unshaded ⅛ inch thick clear, double strength glass.

"Shell Building" means a building for which the envelope is designed and/or constructed prior to knowing the occupancy type. (See also *Speculative Building.*)

"Speculative Building" means a building for which the envelope is designed and/or constructed prior to the design of the lighting and/or HVAC systems. A speculative building differs from a shell building in that the intended occupancy is known for the speculative building. (See also *Shell Building.*)

"Standard Calculation Procedure" means an energy simulation model, and a set of input assumptions, that produce estimates of annual energy consumption for heating, cooling, ventilation, lighting, and other uses and that account for the dynamic thermal performance of the building.

"System" means a combination of equipment and/or controls, accessories, interconnecting means, and terminal elements by which energy is transformed so as to perform a specific function, such as HVAC, service water heating, or illumination.

"Tandem Wiring" means pairs of luminaires operating with one lamp in each luminaire powered from a single two-lamp ballast contained in the other luminaire.

"Task Lighting" means lighting that provides illumination for specific visual functions and is directed to a specific surface or area.

"Task Location" means an area of the space where significant visual functions are performed and where lighting is required above and beyond that required for general ambient use.

"Terminal Element" means a device by which the transformed energy from a system is finally delivered; *i.e.*, registers, diffusers, lighting fixtures, faucets, etc.

"Thermal Conductance" means the constant time rate of heat flow through unit area of a body induced by a unit temperature difference between the surfaces, Btu/ft²·h·°F or Btu/h·°F. It is reciprocal of thermal resistance. (See *Thermal Resistance.*)

"Thermal Mass" means materials with mass heat capacity and surface area capable of affecting building loads by storing and releasing heat as the interior and/or exterior temperature and radiant conditions fluctuate. (See also *Wall Heat Capacity.*)

Thermal Mass Wall Insulation Position:

(1) "Exterior Insulation Position" means a wall having all or nearly all of its mass exposed to the room air with the insulation on the exterior of that mass.

(2) "Integral Insulation Position" means a wall having mass exposed to both room and outside air, with substantially equal amounts of mass on the inside and outside of the insulation layer.

(3) "Interior Insulation Position" means a wall not meeting either of the above definitions, particularly a wall having most of its mass external to an insulation layer.

"Thermal Resistance" means the reciprocal thermal conductance; 1/C as well as 1/h, 1/U, h·ft²·°F/Btu.

"Thermal Transmittance" means the overall coefficient of heat transfer from air to air. It is the time rate of heat flow per unit area under steady conditions from the fluid on the warm side of the barrier to the fluid on the cold side, per unit temperature difference between the two fluids, Btu/h·ft²·°F.

"Thermal Transmittance, Overall" means the gross overall (area weighted average) coefficient of heat transfer from air to air for a gross area of the building envelope, Btu/h·ft²·°F. The thermal transmittance (U°) value applies to the combined effect of the time rate of heat flows through the various parallel paths, such as windows, doors, and opaque construction areas, comprising the gross area of one or more building envelope components, such as walls, floors, or roof/ceiling.

"Thermostat" means an automatic control device responsive to temperature.

"Unconditioned Space" means a volume within a building that is not designed to be directly or indirectly heated and/or cooled. (See *Conditioned Space.*)

"Unit Power Density" means the floor area designated for a specific occupancy, function, or activity expressed in W/ft².

"Unitary Cooling Equipment" means one or more factory-made assemblies which normally include an evaporator or cooling coil, a compressor and condenser combination, and may include a heating function as well.

"Unitary Heat Pump" means one or more factory-made assemblies which normally include an indoor conditioning coil, compressor(s) and outdoor coil or refrigerant-to-water heat exchanger, including means to provide both heating and cooling functions.

"Unlisted Space" means the difference in area between the gross lighted area and the sum of all listed spaces.

"Variable Air Volume (VAV) HVAC System" means HVAC systems that control the dry-bulb temperature within a space by varying the volume of supply air to the space.

"Ventilation" means the process of supplying or removing air by natural or mechanical means to or from any space. Such air may or may not have been conditioned.

"Ventilation Air" means that portion of supply air which comes from outside (outdoors) plus any recirculated air that has been treated to maintain the desired quality of air within a designated space. (See also *Outdoor Air.*)

"Visual Task" means those details and objects that must be seen for the performance of a given activity, and includes the immediate background of the details or objects.

"Voluntary Performance Standards" means an energy consumption goal or goals to be met without specification of the method, materials, and processes to be employed in achieving that goal or goals, but including statements of the requirements, criteria and evaluation methods to be used, and any necessary commentary.

"Walls" means those portions of the building envelope enclosing conditioned space including all opaque surfaces, fenestration and doors, which are vertical or tilted at an angle of 45° from horizontal or greater. (See also *Roof.*)

"Wall Heat Capacity" means the sum of the products of the mass of each individual material in the wall per unit area of wall surface times its individual specific heat, Btu/F. (See *Thermal Mass.*)

"Watt" means a unit of power. One watt is produced when one ampere, flows at an amp of one volt (unity power factor). (See also *Power.*)

"Zone" means a space or group of spaces within a building with heating, cooling, and/or lighting requirements

sufficiently similar so that desired conditions can be maintained throughout by a single controlling device.

(b) For definitions not found in paragraph (a) of this section, the 1986 edition of "Terminology of Heating and Ventilation, Air-Conditioning, and Refrigeration" as published by the American Society of Heating, Refrigeration, and Air-Conditioning Engineers, Inc. (ASHRAE) shall apply to these standards.

(c) For purposes of this subpart, the acronyms and abbreviations shall have the following meanings:

A_o—Total Building Floor Area.
$A_{wall, roof, etc.}$—Area of a Specific Building component.
AAMA—American Aluminum Manufacturers Association.
ACP—Alternative Component Package.
AF—Area Factor.
AFUE—Annual Fuel Utilization Efficiency.
AHAM—Association of Home Appliance Manufacturers.
ALP—Adjusted Lighting Power.
ANSI—American National Standards Institute.
ARI—Air-Conditioning and Refrigeration Institute.
ASHRAE—American Society of Heating, Refrigeration and Air Conditioning Engineers, Inc.
ASME—American Society of Mechanical Engineers.
ASTM—American Society for Testing and Materials.
Btu—British Thermal Unit.
Btu/h—British Thermal Units Per Hour.
C—Thermal Conductance.
C_c—Cooling Criteria.
CDD—Cooling Degree-Days.
CDD50—Cooling Degree-Days Base 50 °F.
CDD65—Cooling Degree-Days Base 65 °F.
CDH—Cooling Degree-Hours.
CDH80—Cooling Degree-Hours Base 80 °F.
CEEU—Cost Equivalent Energy Units.
cfm—Cubic Feet Per Minute.
CFR—Code of Federal Regulations.
CLP—Connected Lighting Power.
COP—Coefficient of Performance.
CU—Coefficient of Utilization.
DOE—U.S. Department of Energy.
DR—Average Daily Temperature Range for Warmest Month.
EER—Energy Efficiency Ratio.
ELPA—Exterior Lighting Power Allowance.
EPD—Equipment Power Density.
°F—Degrees-Fahrenheit
GLA—Gross Lighted Building Area.
HC—Heat Capacity.
HDD—Heating Degree-Days.
HDD50—Heating Degree-Days Base 50 °F.
HDD65—Heating Degree-Days Base 65 °F.
HI—Hydronics Institute.
HID—High Intensity Discharge.
hp—Horsepower (force).
HPS—High Pressure Sodium.
HSPF—Heating System Performance Factor.
HVAC—Heating, Ventilating and Air Conditioning.
IEEE—Institute of Electrical and Electronics Engineers, Inc.
IES—Illuminating Engineering Society of North America.
ILPA—Interior Lighting Power Allowance.
IPLV—Integrated Part Load Value.
ILD—Internal Load Density.
IRF—Internal Reflecting Film.
ISSC—Internal Shading System Coefficient.
K_h—Daylighting Factor.
kVA—Kilo-Volts Amperes.
kW—Kilo-Watts.
LPB—Lighting Power Budget.
LPCC—Lighting Power Control Credits.
LS—Listed Space.
NWMA—National Woodwork Manufacturers Association.
o.c.—On Center.
OLA—Occupant Load Adjustment.
OMB—U.S. Office of Management and Budget.
P_b—Base Unit Lighting Power Allowance.
PAF—Power Adjustment Factor.
PF—Projection Factor.
PTAC—Packaged Terminal Air-Conditioner.
R—Thermal Resistance.
r—Thermal Resistivity.
S_{es}—Shading Horizontal Adjustment Factor.
SC—Shading Coefficient.
SEER—Seasonal Energy Efficiency Ratio.
U_o—Average Thermal Transmittance.
UL—Underwriter's Laboratories, Inc.
ULPA—Unit Lighting Power Allowance.
UPD—Unit Power Density.
VAV—Variable Air Volume.
VCP—Visual Comfort Probability.
VDT—Visual Display Terminal.
VLT—Visible Light Transmittance.
VSEW—Vertical Surface of the Facade.
W.C.—Water Column.
W—Watts.
W/ft ²—Watts Per Square Foot.
W/lin.ft—Watts Per Linear Foot.
W_h—Window Height.
WWR—Window Wall Ratio.
WYEC—Weather Year for Energy Conservation Calculations.

§ 435.100 Explanation of numbering system for standards.

(a) For purposes of this subpart, a derivative of two different numbering systems will be used.

(1) For the purpose of designating a section, the system employed in the Code of Federal Regulations (CFR) will be employed. The number "435," which signifies Part 435, Chapter II of Title 10, Code of Federal Regulations, is used as a prefix for all section headings. The suffix is a two or three digit number beginning with ".97." For example, the lighting section of the standards is numbered § 435.103.

(2) Within each section, a numbering system common to many national voluntary consensus standards is used. This system was chosen because of its commonality among the buildings industry. A decimal system is used to denote sections and subsections. For example, § 9.4.2 refers to section 9, subsection 4, paragraph 2.

(b) The hybrid numbering system is used for two purposes:

(1) The use of the Code of Federal Regulation's numbering system allows the researcher using the CFR easy access to the standards.

(2) The use of the second system allows the builder, designer, architect or engineer easy access because they are used to the system employed.

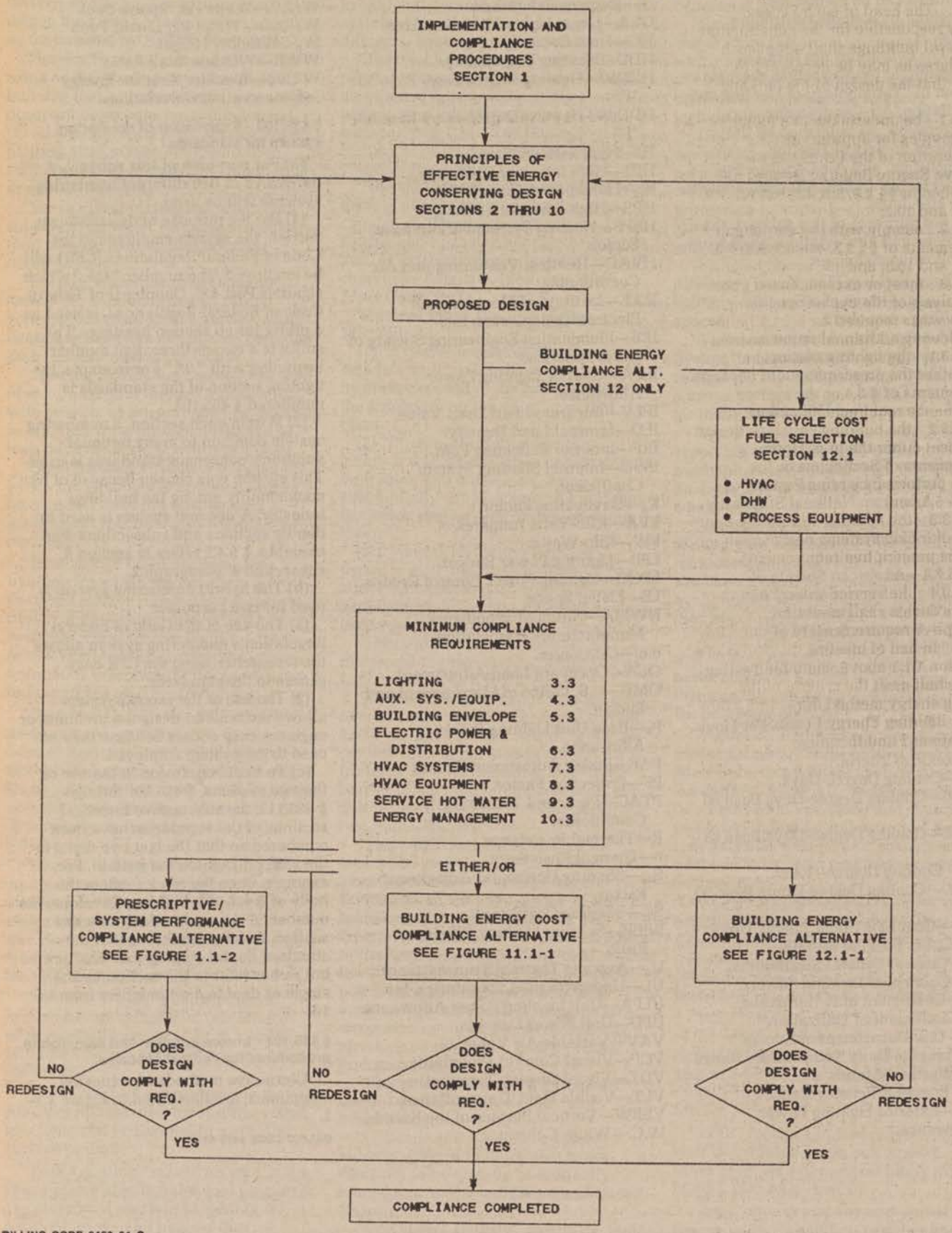
(c) To avoid confusion in the use of the two systems, § 435.101 through § 435.112, the substantive technical sections of the standards, have been numbered so that the last two digits in the suffix designate the section. For example, once the reader enters the body of § 435.105: Building Envelope, the number "5" is used to designate the section. References throughout the standard do not employ the "435" prefix but rather refer to the section by the single or double digit numbers from 1–12.

§ 435.101 Implementation and compliance procedures for Federal agencies.

Alternative methods of achieving compliance are illustrated in Figure 1.1–1.

BILLING CODE 6450-01-M

Figure 1.1-1 Alternative Methods of Achieving Compliance



BILLING CODE 6450-01-C

1.1 Compliance

1.1.1 The head of each Federal agency responsible for the construction of Federal buildings shall adopt such procedures as may be necessary to assure that the design of the building shall:

1.1.1.1 be undertaken in a manner that provides for appropriate consideration of the Principles of Effective Energy Building Design prescribed in §§ 2.0, 3.2, 4.2, 5.2, 6.2, 7.2, 8.2, 9.2 and 10.2;

1.1.1.2 comply with the minimum requirements of §§ 3.3, 4.3, 5.3, 6.3, 7.3, 8.3, 9.3 and 10.3; and

1.1.1.3 meet or exceed, based upon the analysis of life-cycle cost-effectiveness required by § 1.1.2 below, the following additional requirements:

1.1.1.3.1 the lighting design shall meet either the prescriptive requirements of § 3.4 or the system performance requirements of § 3.5,

1.1.1.3.2 the building envelope design shall meet either the prescriptive requirements of Section 5.4 or the system performance requirements of Section 5.5, and

1.1.1.3.3 the heating, ventilating and air conditioning systems design shall meet the prescriptive requirements of Section 7.4, and

1.1.1.3.4 the service water heating systems design shall meet the prescriptive requirements of Section 9.4.

1.1.2 In lieu of meeting the provisions of Section 1.1.1 above, the building design shall meet the criteria of the building energy method of Section 11.0 or 12.0, Building Energy Compliance Alternatives I and II.

1.1.3 The head of each Federal agency responsible for the construction of Federal buildings shall also assure that the decision-making process for the design of the building shall employ the methodology for estimating and comparing the life-cycle cost of Federal buildings and for determining life-cycle cost-effectiveness prescribed in Subpart A of 10 C.F.R. Part 436.

1.2 General Approach to Compliance

1.2.1 The standards, in addition to minimum requirements, establish three alternate methods to determine whether the design has achieved compliance.

1.2.2 There are several alternative methods of achieving compliance provided for in the standards:

1.2.2.1 Prescriptive (Sections 3.4, 5.4, 7.4 and 9.4),

1.2.2.2 System Performance (Sections 3.5 and 5.5), or

1.2.2.3 Building Energy (Section 11.0 or 12.0).

1.2.2.4 The criteria established for each of the methods allow for designs that are roughly equivalent in terms of energy conservation. The equivalency of the methods can be demonstrated by designing a building using the Prescriptive approach, then modeling the building using either the System Performance or Building Energy criteria calculation procedures and comparing results.

1.2.3 Compliance with these standards shall be demonstrated by meeting the set of minimum requirements defined in Sections 3.2, 3.3, 4.2, 4.3, 5.2, 5.3, 6.2, 6.3, 7.2, 7.3, 8.2, 8.3, 9.2, 9.3, 10.2, and 10.3 and one of the alternative methods.

1.3 How To Select a Compliance Method

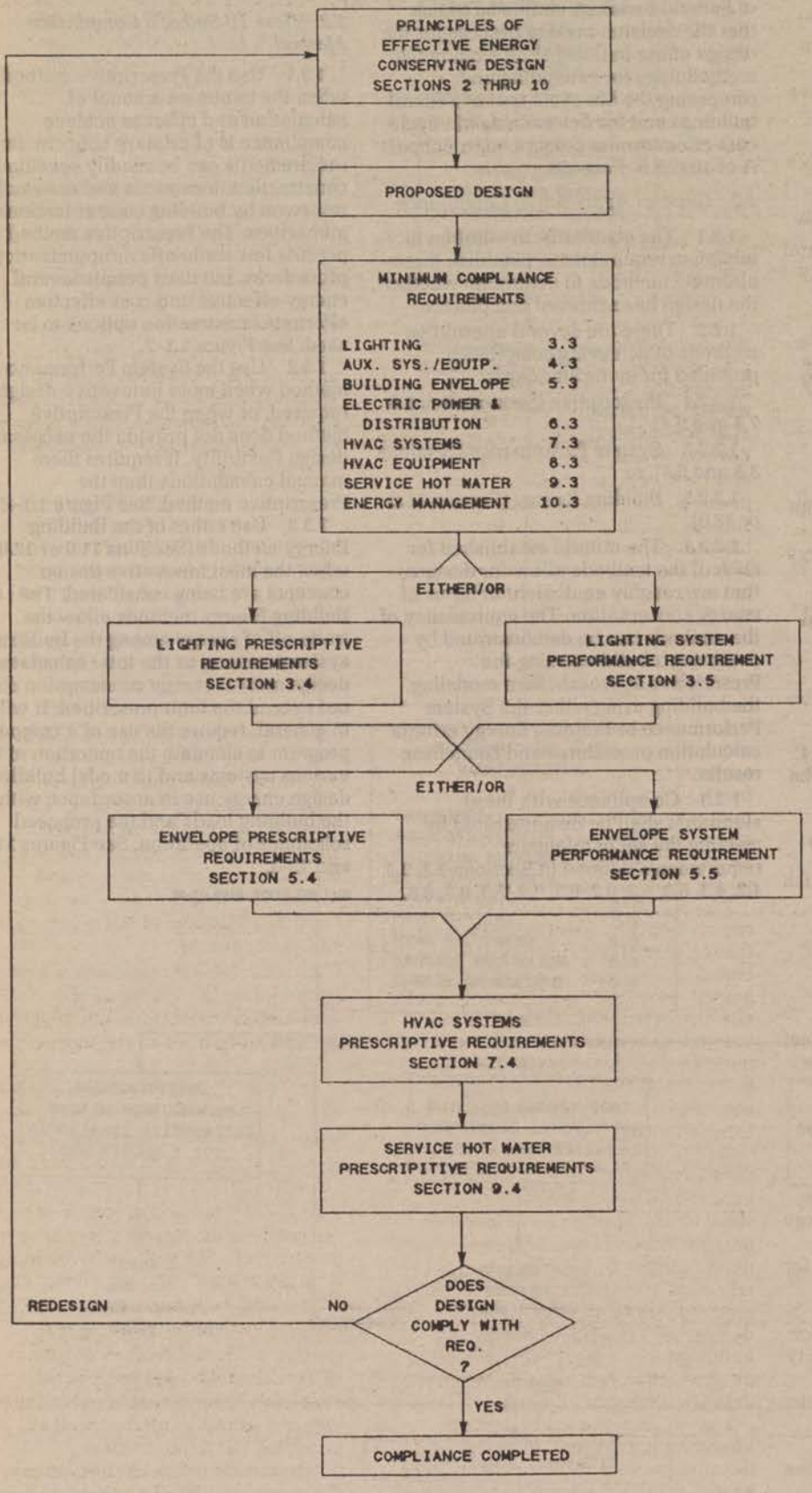
1.3.1 Use the Prescriptive method when the minimum amount of calculation and effort to achieve compliance is of primary concern. Its requirements can be readily specified in construction documents and are easily reviewed by building code enforcement authorities. The Prescriptive method permits few trade-offs or optimization procedures, but does permit several energy-effective and cost-effective alternate construction options to be used. See Figure 1.1–2.

1.3.2 Use the System Performance method when more innovative design is required, or when the Prescriptive method does not provide the necessary design flexibility. It requires more manual calculations than the Prescriptive method. See Figure 1.1–2

1.3.3 Use either of the Building Energy methods (Sections 11.0 or 12.0) when the most innovative design concepts are being considered. The Building Energy methods allow the trade-off of energy among the building systems as long as the total calculated design annual energy consumption does not exceed the limit prescribed. It will, in general, require the use of a computer program to simulate the operation of the various systems and to model building design energy use in accordance with the building loads and the proposed schedules of operation. See Figures 11–1 and 12–1.

BILLING CODE 6450-01-M

Figure 1.1-2 Prescriptive/System Performance Compliance Alternatives



BILLING CODE 6450-01-C

§435.102 Principles of effective energy building design.

2.1 General

2.1.1 This section complements the other sections of the standards by providing general principles of effective building design. The intention of this section is to provide ideas on how to improve the integration of the building's major energy using subsystems in a cost-effective manner without compromising the building's intended functional use or internal environmental conditions. In addition, more narrowly focused principles are included in sections 3.0 through 10.0.

2.1.2 To comply with the principles of effective design, designers shall use their professional judgment to identify the building's most significant energy requirements and select appropriate solutions from the general strategies found in this section and the more specific strategies found in sections 3.0 through 10.0.

2.2 Identification of Significant Energy Requirements

2.2.1 Before energy design strategies can be developed for a commercial or multi-family high rise residential building, a clear picture of its most significant energy requirements must be developed. The basic approach to achieving an energy conscious design is to improve the energy efficiency of the building by shifting or reducing loads, improving transport systems, and providing efficient environmental systems and controls. This is accomplished by first determining which aspects of the building's energy requirements are the most significant, those that would result in the largest annual energy costs to the building owner if energy conserving strategies were otherwise not applied. For example, for a given building, the largest annual energy cost component may be lighting, followed by cooling, heating, and ventilation, respectively. In this example electricity would be the major energy source. Therefore, peak time-rates of energy use (i.e., peak power demands), as well as direct energy use, would have to be included in any energy analysis. Consideration of peak demands will reduce the requirement for oversizing of energy systems in the building and will also have the added impact of helping to reduce the need for additional, low utilization peak capacity on utility grids.

2.2.2 Once the most significant cost components of the building's energy requirements have been determined, apply the strategies and design solutions listed below and those that appear in each of the following sections of the standards. In the example noted above, lighting solutions would be addressed first, followed by cooling, heating, and then ventilation.

2.2.3 Research results indicate that the most significant energy uses for any given commercial or multi-family high rise residential building are generally not accurately identifiable by professional intuition. Therefore, use shall be made of one of the several available analysis tools, some of which are microcomputer-based.

2.3 General Solution Strategies

2.3.1 Consider energy efficiency from the initiation of the building design process, since design improvements are most easily and effectively made at that time. Seek the active participation of members of the design team early in the design process, including the owner, architect, engineer, and builder, if possible. Consider building attributes such as building function, form, orientation, window/wall ratio, and HVAC system types early in the design process. Each has major energy implications. These considerations most likely will result in solutions that minimize both construction and operation costs, including energy demand charges.

2.3.2 Address the building's energy requirements in the following sequence: minimize impact of the building functional requirements; minimize loads; improve the efficiency of distribution and conversion systems; and integrate building subsystems into an efficient whole. Each of these is discussed below.

2.3.2.1 Minimize impact of functional requirements by identifying major areas that offer energy efficiency opportunities based on the building's functional use, human occupancy requirements, and site characteristics. These areas will vary considerably from building to building depending upon function and service requirements, and shall be considered when applying the criteria of these standards.

2.3.2.2 Minimize loads by analyzing the external and internal loads to be imposed on building energy-using subsystems, both for peak-load and part-load conditions. Include a determination of how the building relates to its external environment in the analysis, either adaptively or defensively. Consider changes in building form, aspect ratio, and other attributes that reduce, redistribute, or delay (shift) loads.

2.3.2.3 Improve subsystems by analyzing the diversified energy and demand (power) requirements of each energy-using subsystem serving the functional requirements of the building. Consider static and dynamic efficiency of energy conversion and energy transport subsystems and include consideration of opportunities to reclaim, redistribute and store energy for later use.

2.3.2.4 Alternative ways to integrate systems into the building will be accomplished by considering both power and time components of energy use. Identify, evaluate, and design each of these components to control the overall design energy consumption. The following shall be considered when integrating major building subsystems:

2.3.2.4.1 Address more than one problem when developing design solutions, and make maximum use of building components already present for non-energy reasons (e.g., windows, structural mass);

2.3.2.4.2 Examine design solutions that consider time since sufficient energy may already be present from the environment (e.g., solar heat, night cooling) or from internal equipment (e.g., lights, computers) but available at different times than needed. Thus, active (heat pumps with water tanks) and passive (building mass) storage techniques may be considered;

2.3.2.4.3 Examine design solutions that consider anticipated space utilization. For example, in large but relatively unoccupied spaces, task or zone heating may be considered. Transporting energy (light and heat) from locations of production and availability to locations of need shall be considered instead of the purchase of additional energy;

2.3.2.4.4 Never reject waste energy at temperatures usable for space conditioning or other practical purposes, without calculating the economic benefit of energy recovery;

2.3.2.4.5 Consider design solutions that provide more comfortable surface temperatures or increase availability of controlled daylight in buildings in which human occupancy is a primary function;

2.3.2.4.6 Use design solutions that are easily understood as they have a greater probability of use by building occupants; and

2.3.2.4.7 Where the functional requirements of the building may change, the installed environmental system should be designed to be adaptable to meet functional changes that can be anticipated as well as providing flexibility to meet indeterminate future changes in use, occupancy or other functions.

§ 435.103 Lighting.

3.1 General

3.1.1 This section contains principles of design, a set of minimum requirements, and two alternative compliance procedures, prescriptive and systems performance, for the design of building lighting and lighting control systems, and includes provisions for daylighting credit. The procedures in this section are solely for use in establishing lighting design budgets and are not intended for use as lighting design procedures.

3.1.2 *Scope.* The following are covered by this section:

3.1.2.1 Interior spaces of buildings;

3.1.2.2 Building exteriors and exterior areas, such as entrances, exits, and loading docks; and

3.1.2.3 Roads, grounds, parking, and other exterior areas where lighting is energized through the building electrical service.

3.1.3 *Exemptions.* The following are exempt from these standards:

3.1.3.1 Outdoor manufacturing, commercial greenhouses, and processing facilities;

3.1.3.2 Lighting power for theatrical production studios and stages, television broadcasting studios, audio-visual presentation, and entertainment facilities in spaces such as stages, hotel ballrooms, nightclubs, discos, and casinos, and where lighting is an essential technical element for the function performed;

3.1.3.3 Specialized luminaires for medical and dental purposes;

3.1.3.4 Outdoor athletic facilities;

3.1.3.5 Lighting power for display lighting required for art exhibits or displays in galleries, museums and monuments;

3.1.3.6 Exterior lighting for public monuments;

3.1.3.7 Special lighting needs for research;

3.1.3.8 Lighting power for lighting used solely for indoor plant growth during the hours of 10:00 p.m. to 6:00 a.m.;

3.1.3.9 Emergency lighting that is automatically "off" during normal operation;

3.1.3.10 High risk security areas or any area identified by local ordinances or regulations or by security or safety personnel as requiring additional lighting;

3.1.3.11 Lighting power densities for spaces with enhanced lighting specifically designed for primary use by the visually impaired, hard of hearing, or for senior citizens;

3.1.3.12 Lighting for signs;

3.1.3.13 Store-front exterior-enclosed display windows in retail facilities; and

3.1.3.14 Lighting for dwelling units.

3.1.4 *Building Lighting Power Allowance.* The lighting power allowance for a building consists of the Exterior Lighting Power Allowance (ELPA), in accordance with Section 3.3, plus the Interior Lighting Power Allowance (ILPA) in accordance with Section 3.4 or 3.5. This lighting power allowance is the upper limit to which the building can be designed, based on the criteria of the compliance alternative chosen.

3.1.4.1 The prescriptive criteria in Section 3.4 provides a single compliance procedure based on calculating a lighting budget by building type or major area type within which a designer can flexibly design a lighting solution. To obtain credit for specific lighting energy conservation measures, use Section 3.5, Section 11.0, or Section 12.0.

3.1.4.2 The systems performance criteria in Section 3.5 provides a more complex compliance procedure based on calculating a lighting budget by activity or spaces within which the designer can flexibly design a lighting solution and receive credit for energy conserving controls and daylighting measures. To receive credit for more complex lighting conservation measures use Section 11.0 or 12.0.

3.1.5 *Credit for Daylighting.* Daylighting credit, for reduced use of electric lighting energy resulting from the use of automatic lighting control devices in conjunction with fenestration (e.g., windows and skylights), may be taken if the systems performance alternative in Section 3.5 is chosen. However, if such daylighting credit is to be applied to other building subsystems, such as use of additional fenestration area, Section 11.0 or 12.0 must be used. Thermal credit provisions for daylighting are found in Section 5.0.

3.1.6 *Compliance.* A building shall be considered in compliance with this Section if the following conditions are met:

3.1.6.1 The minimum requirements of Section 3.3 are met;

3.1.6.2 The exterior lighting power to be installed is not greater than the Exterior Lighting Power Allowance (ELPA), calculated using Equation 3.3–1;

3.1.6.3 The interior lighting power to be installed is not greater than the Interior Lighting Power Allowance (ILPA), based on either the Prescriptive Criteria in Section 3.4 or the Systems Performance Criteria in Section 3.5.

3.1.6.4 Tradeoffs between ILPA and ELPA are not allowed. Tradeoffs of the interior Lighting Power Budgets (LPB) among interior spaces are allowed as long as the total Connected Lighting Power (CLP) within the building does not exceed the Interior Lighting Power Allowance (ILPA) and Lighting Power Control Credits (LPCC) are used only for connected lighting power in those spaces for which credit is claimed. Tradeoffs of exterior lighting power budgets among exterior areas are allowed as long as the total Connected Lighting Power (CLP) of exterior lighting does not exceed the Exterior Lighting Power Allowance (ELPA) and the allowance for the building exterior surfaces is not exceeded.

3.1.7 *Multi-Building Facilities.* The total lighting power allowances for each building in a multi-building facility shall be calculated separately.

3.2 Principles of Design

3.2.1 The lighting system is designed to provide a productive, safe, and pleasing visual environment for the intended use of the space. However, lighting is both a major energy end use in commercial buildings (especially in office buildings) and a major contributor to internal loads by increasing cooling loads and decreasing heating loads. Therefore, it is important to produce a design that meets the lighting functional criteria of the space as well as one that minimizes energy use. Recommended maintained illuminance levels for visual tasks and surrounding lighted areas are included in the *IES Lighting Handbook, Applications (1983) or Reference (1985).* Principles of energy conserving design within that context are described below.

3.2.2 The following Design Concepts shall be considered in the design of lighting that is both energy efficient and visually effective.

3.2.2.1 Energy use is determined by the lighting load (demand power) and its duration of use (time). Minimize the actual demand load rather than just the apparent connected load, and control the load rather than just switching, if switching may adversely affect the quality of the luminous environment.

3.2.2.2 Consider daylighting along with the proper use of controls so that the savings from electric lighting can be realized. Design should be sensitive to window glare, sudden changes in luminances, and general use acceptance of controls. Window treatment (blinds, drapes and shades) and glazing should be carefully selected to control direct solar penetration and luminance extremes while still maintaining view and daylight penetration.

3.2.2.3 Design lighting systems so that illumination required for tasks is primarily limited to the location of the task and from a direction that will

minimize direct glare and veiling reflections on the task. For example, the ideal positioning of work stations is between the rows of ceiling-mounted luminaires with the direction of view parallel to the primary task. In densely-occupied work spaces, uniform distribution of general lighting may be most appropriate. Where supplementary task illumination is necessary, general or ambient illumination should not be lower than a third of the luminance required for the task. This will help maintain luminance rates that are visually comfortable.

3.2.2.4 Use task lighting, whenever possible, to accommodate the need for higher lighting levels due to task visual difficulty, glare, intermittently changing requirements, or individual visual differences (poor and aging eyesight).

3.2.2.5 Group similar activities so high illuminance or special lighting for particular tasks are localized in certain rooms or areas, and so that less efficient fixtures required for critical glare control do not have to be installed uniformly when they are only required sparsely.

3.2.2.6 When indirect lighting is appropriate, use schemes that create reasonably uniform ceiling luminances. If this is achieved, work spaces may be located anywhere and occupants may face in any direction without being subject to excessive veiling reflection on the tasks. The indirect system may allow more effective use of the space than other types of lighting systems. However, indirect lighting systems generally have lower utilization factors, and may require increased ceiling height to provide uniform ceiling luminance.

3.2.2.7 Use lighting controls throughout that maintain proper lighting levels when and where it is needed but also allow reductions in lighting when tasks are less critical, or spaces are not fully occupied. The designer must consider user acceptance of control strategies to maximize energy efficiency.

3.2.2.8 Use lower levels of ambient lighting in situations such as merchandising, where the contrast between accent lighting and ambient lighting is critical. Accent lighting shall not exceed five (5) times the ambient level. Consider fewer, more effectively-accented displays, rather than more ineffectively-accented ones.

3.2.3 The following guidelines identify Fixture and Lamp selection strategies to be considered in the selection of luminaires and lamps for inclusion in an energy efficient, visually-effective design:

3.2.3.1 Consider the use of more efficient equipment with appropriate distribution, glare control and visual characteristics. Utilize fixture designs that will provide high lighting efficiency while meeting the other lighting objectives of the installation.

3.2.3.2 Review visual comfort probability (VCP) data, available from manufacturers, for specific luminaires when minimizing discomfort glare is a criterion.

3.2.3.3 Consider luminaire construction that minimizes light loss due to dirt collection.

3.2.3.4 Investigate the use of dimmers to reduce energy consumption when the system is new and capable of providing more light than the average depreciated design value.

3.2.3.5 Use more efficient lamps with appropriate luminous efficacy, life expectancy and spectrum distribution and color rendering characteristics.

3.2.3.6 Use more efficient ballasts for fluorescent and HID lamps with appropriate ballast factors, power factor, noise rating, starting and restarting characteristics.

3.2.3.7 Use luminaires with heat removal and heat recovery capabilities, thereby allowing the lighting equipment to operate more efficiently at a lower ambient temperature.

3.2.3.8 Limit the use of lower efficiency lamps, such as incandescent, to only those applications where their color, lumens or distribution characteristics cannot be duplicated by other sources. Due to their lower efficiency, the use of "extended service" incandescent lamps should be limited to those applications where fixtures are difficult to reach and/or maintenance costs for revamping will be excessive.

3.2.4 Space Design

3.2.4.1 It is important to carry through on the lighting design when completing the interior design. Reduce light absorption by encouraging the use of lighter finishes, particularly on ceilings, walls and partitions. Select colors and surface materials so that their reflectance values are within the ranges recommended by the IES. This will aid the efficient use of light and help to provide comfortable luminance ratios.

3.2.4.2 In offices with visual display terminals (VDT) that are susceptible to reflections, it may be necessary to use reflectances for some room surfaces at the low end of the recommended ranges to reduce unwanted reflections on the screens. Where practical, treat the screens of VDTs with anti-glare materials to avoid veiling reflection.

3.3 Minimum Requirements

3.3.1 Lighting Controls.

3.3.1.1 All lighting shall be provided with manual, automatic, or programmable controls.

3.3.1.1.1 *Exception to Section 3.3.1.1:*

(a) controls for emergency or exit lighting.

3.3.1.2 *Minimum Number of Lighting Controls.* Each space enclosed by walls or ceiling-height partitions shall be provided with control(s) that, together or alone are capable of controlling all lights within that space, excluding those requiring continuous operation for security purposes.

3.3.1.2.1 The minimum number of controls shall not be less than:

(a) One lighting control for each space; and

(b) One lighting control for each task or group of task locations within an area of 450 ft^2 or less.

3.3.1.2.2 *Equivalent Number of Controls.* The minimum number of controls may be reduced, by using an equivalent number of controls from Table 3.3–1, where control types listed in Table 3.3–1 are used. However, the minimum number of controls may not be reduced to less than one control for each 1500 W of connected lighting power.

Table 3.3-1
Equivalent Number of Controls

TYPE OF CONTROL	EQUIVALENT NUMBER OF CONTROLS
Manually operated on-off switch	1
Occupancy sensor	2
Timer-Programmable from the space being controlled	2
Three level, including off, step control or pre-set dimming	2
Four level, including off, step control or pre-set dimming	3
Automatic or continuous dimming	3

3.3.1.2.3 *Exceptions to Section 3.3.1.2:*

(a) Lighting control requirements for spaces that must be used as a whole, such as public lobbies of office buildings, hotels, and hospitals; retail and department stores and warehouses, storerooms, and service corridors under centralized supervision, shall be controlled by a lesser number of controls, but not less than one control for each 1500 W of connected lighting power, or a total of three (3) controls, whichever is greater. Lighting in such

spaces shall be controlled in accordance with the work activities.

(b) Hotel and motel guest rooms shall have one or more master controls at the main entry door that turn off all permanently wired lighting fixtures and lighting and television receptacles. For multiple room suites, controls at the entry of each room, in lieu of a master switch, will meet these requirements.

3.3.1.3 Controls provided for task areas, if readily accessible, may be mounted as part of the task lighting luminaire.

3.3.1.4 Control of the same load from more than one location shall not be credited as additional control points.

3.3.1.5 All lighting controls shall be readily accessible to personnel occupying or using the space. Exceptions are automatic controls, programmable controls, lighting for safety hazards and security, controls requiring trained operators, and those controls for spaces that must be used as a whole.

3.3.1.6 Exterior lighting shall be automatically controlled by timer, photocell, or combination of timer and photocell. Timers shall be of the automatic type or otherwise capable of adjustment for seven days and for seasonal daylight schedule variations. All time-controllers shall be equipped with back-up mechanisms to keep time during a four hour power outage.

3.3.1.7 When the building is served by an energy management system, programmable controls, shared tenant services that affect interior environments, or "intelligent building" systems, provisions shall be made to incorporate lighting controls into the system if a separate automatically-controlled lighting system is not provided.

3.3.2 Fluorescent Lamp Ballasts.

3.3.2.1 Fluorescent lamp ballasts shall have a ballast efficacy factor not less than that shown in Table 3.3–2.

3.3.2.1.1 *Exception to 3.3.2.1*: Ballasts not included in Table 3.3–2 and ballasts designed for use with dimming controls are excluded from these criteria.

Table 3.3-2
Fluorescent Ballast For Efficacy Factors*

NUMBER OF LAMPS	LAMP TYPE	NOMINAL OPERATIONAL INPUT VOLTAGE	DESIGN STARTING TEMPERATURE	INPUT FREQUENCY	MAX. LAMP OPERATING TEMPERATURE	MIN. BALLAST EFFICIENCY FACTOR
1	4 ft rapid start	120 or 277	>40 °F	60Hz	<1000 m amp	1.805
2	4 ft rapid start	120	>40 oF	60Hz	<1000 m amp	1.060
2	4 ft rapid start	277	>40 °F	60Hz	<1000 m amp	1.050
2	8 ft slimline	120 - 277	>40 °F	60Hz	<1000 m amp	0.570
2	8 ft high output, rapid start	120 - 277	<40 °F	60Hz	<1000 m amp	0.390

* For ballasts not specifically designed for use with dimming controls.

3.3.2.2 The Ballast Efficacy Factor shall be calculated in accordance with Equation 3.3–1:

$$BEF = \frac{BF}{\text{Power Input}}$$

Equation 3.3–1

Where:

BEF = Ballast Efficacy Factor.

BF = Ballast Factor, expressed as a percent.

Power Input = Total Wattage of combined lamps and ballasts

3.3.2.2.1 Tests for ballast factor and power input shall be in accordance with *ANSI Standard C–82.2–1984* "Method of Measurement for Fluorescent Lamp Ballasts", using "Standard" F40T1240A, F96T12 75 watt, or F96T12H0 110 watt lamps.

3.3.2.3 One-lamp or three-lamp fluorescent luminaires shall be tandem-wired to eliminate unnecessary use of single lamp ballasts if they are: used for general lighting; recess mounted within ten feet center-to-center of each other; or pendant or surface mounted within 1 ft of each other, and within the same room. Tandem wiring consists of pairs of luminaires operating with one lamp in a luminaire powered from a single two-lamp ballast contained in a second luminaire.

3.3.2.3.1 *Exception to Section 3.3.2.3*:

(a) Three-lamp ballasts may be used.

3.3.2.4 Fluorescent lamp ballasts shall have a power factor equal to or greater than 80%.

3.3.2.4.1 *Exception to 3.3.2.4*: Ballasts for circline and compact fluorescent lamps and low wattage, high intensity discharge lamps of less than 100 watts.

3.4 Lighting—Prescriptive Compliance Alternative

3.4.1 Purpose

3.4.1.1 This subsection provides a prescriptive procedure for determining an exterior lighting power allowance and the Interior Lighting Power Allowances for illumination systems installed in six types of new buildings. It is intended for use with buildings having simple lighting requirements and where the minimum amount of calculation and effort to achieve compliance is of primary concern. For other building types, to receive credit for switching, daylighting, or other trade-offs, or to receive credit for lighting optimization, use Section 3.5, Section 11.0, or Section 12.0.

3.4.1.2 This section also serves as the basis for calculating the skylight area in Section 5.3.9.6, and may be used for estimating the lighting heat gain for calculating the internal load density in Equation 5.4–1 and Section 5.5.6.2.

3.4.2 General

3.4.2.1 This method for compliance prescribes a total allowable Unit Lighting Power Allowance (ULPA) for interior lighting for the building type/area as listed in Table 3.4–1. There is no recognition of specific makeup of spaces and activities within the building.

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Table 3.4-1
Prescriptive Unit Lighting Power Allowance (ULPA), W/ft^2

BUILDING TYPE/AREA FUNCTION	Gross Lighted Area Ranges						Effective Date
	0 to 2,000 ft^2	2,001 to 10,000 ft^2	10,001 to 25,000 ft^2	25,001 to 50,000 ft^2	50,001 to 250,000 ft^2	> 250,000 ft^2	
Food Service							
Fast Food/Cafeteria	1.50	1.38	1.34	1.32	1.31	1.30	1988
	0.92	0.85	0.82	0.81	0.81	0.80	1993
Leisure Dining/Bar	2.20	1.91	1.71	1.56	1.46	1.40	1988
	1.60	1.56	1.52	1.48	1.44	1.40	1993
Offices	1.90	1.81	1.72	1.65	1.57	1.50	1988
	1.40	1.34	1.27	1.22	1.16	1.11	1993
Retail[1]							
Retail General	3.30	3.08	2.83	2.50	2.28	2.10	1988
	2.70	2.52	2.32	2.05	1.87	1.72	1993
Mall Concourse							
Multi-Store Service	1.60	1.58	1.52	1.46	1.43	1.40	1988
	0.69	0.68	0.65	0.63	0.61	0.60	1993
Service Establishment	2.70	2.37	2.08	1.92	1.80	1.70	1988
	2.81	2.03	1.78	1.65	1.54	1.46	1993
Garages	0.30	0.28	0.24	0.22	0.21	0.20	1988
	0.25	0.24	0.23	0.22	0.21	0.20	1993
Schools							
Pre-elementary	1.80	1.80	1.72	1.65	1.57	1.50	1988
	1.33	1.33	1.27	1.22	1.16	1.11	1993
Jr. High/High School	1.90	1.90	1.88	1.83	1.76	1.70	1988
	1.40	1.40	1.39	1.35	1.30	1.26	1993
Technical/Vocational	2.40	2.33	2.17	2.01	1.84	1.70	1988
	1.77	1.72	1.60	1.49	1.36	1.26	1993
Warehouse/Storage	0.80	0.66	0.56	0.48	0.43	0.40	1988
	0.60	0.50	0.42	0.36	0.32	0.30	1993

Notes:
1. Includes general, merchandising and display lighting.

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3.4.3 Exterior Lighting Power Allowance

3.4.3.1 Building exteriors and exterior areas, as defined in Section 3.1.2.2, and roads, grounds, parking, and other exterior areas, defined in Section 3.1.2.3, shall have a lighting power density not to exceed the Exterior Lighting Power Allowance (ELPA), which is the sum of the allowances for each of the areas listed above, as calculated by Equation 3.4–1 using unit power densities from Table 3.4–2.

Table 3.4-2
Exterior Lighting Unit Power Density

AREA DESCRIPTION	UNIT POWER DENSITY (UPD)
Exit (with or without canopy) . . .	25 W/lin. ft of door opening
Entrance (without canopy)	30 W/lin. ft of door opening
Entrance (with canopy)	
High Traffic (retail, hotel, airport, theater, etc.)	10 W/ft^2 of canopied area
Light Traffic (hospital, office, school, etc.)	4 W/ft^2 canopied area
Loading area	0.40 W/ft^2
Loading door	20 W/lin. ft of door opening
Building Exterior Surfaces/Facades	0.25 W/ft^2 of surface area to be illuminated
Storage and non-manufacturing work areas	0.20 W/ft^2
Other activity areas for casual use such as picnic grounds, gardens, parks, and other landscaped areas	0.10 W/ft^2
Private driveways/walkways	0.10 W/ft^2
Public driveways/walkways	0.15 W/ft^2
Private parking lots	0.12 W/ft^2
Public parking lots	0.18 W/ft^2

$$ELPA = \Sigma\, DO_i\, UPD_{Di} + \Sigma\, A_i\, UPD_{Ai} = \Sigma\, [(DO_1 \times UPD_{D1} \ldots + DO_n \times UPD_{Dn}) + (A \times UPD_{A1} \ldots A_n \times UPD_{An})]$$

Equation 3.4–1

Where:

ELPA = Exterior lighting power allowance, in Watts.

i = numerical subscript (1,2, ... n) for each occurrence of exterior openings or exterior areas of the building.

n = total number of occurrences of exterior openings or areas of the building.

DO = Door opening, linear feet.

UPD_D = Unit power density for the door, W/lin. ft, from Table 3.4–2.

UPD_A = Unit power density for the area in W/ft^2, from Table 3.4–2.

A = Exterior area in ft^2.

3.4.4 Interior Lighting Power Allowance

3.4.4.1 The Interior Lighting Power Allowance (ILPA) shall be calculated using the prescriptive Unit Lighting Power Allowances (ULPA) in Table 3.4–1. First, determine if the predominant function of the proposed building is one of the six building types listed in Table 3.4–1. If not, Section 3.5, 11.0, or 12.0 must be used. Next, determine whether the proposed design has secondary functions that are 10% or more of the gross lighted area of the building and are listed in Table 3.4–1. If so, the designer has the option of using the predominant building function to calculate the ILPA or using the calculation method for multiple-use buildings in Section 3.4.4.1.2 below.

3.4.4.1.1 If the proposed building has only one function, has no secondary functions with 10% or more of the gross lighted area, or the designer chooses to determine the ILPA based on only one function, Equation 3.4–2 shall be used to determine the building ILPA. First, select the appropriate building type in Table 3.4–1, and the appropriate column for the Gross Lighted Area (GLA) of the proposed building. This value is the Unit Lighting Power Allowance (ULPA). Determine the ILPA by multiplying the ULPA by the GLA as shown in Equation 3.4–2.

$$ILPA = ULPA \times GLA$$

Equation 3.4–2

Where:

ILPA = Interior Lighting Power Allowance, in Watts.

ULPA = Unit Lighting Power Allowance, in W/ft^2, from Table 3.4–1.

GLA = Gross Lighted Area of the Proposed Building, in ft^2.

3.4.4.1.2 If a building design has more than one function listed in Table 3.4–1, such as an office building with parking and retail stores, with more than 10% of the gross lighted area, Equation 3.4–3 may be used to calculate the building Interior Lighting Power Allowance (ILPA). First, determine the gross lighted area of the building (GLA) and the gross lighted area for each qualifying secondary function (GLA_f) in the building. Select the ULPA from Table 3.4–1 under the column corresponding to the gross lighted area of the entire proposed building and multiply it by the gross lighted area of that function. Sum the products to determine the building ILPA, as shown in Equation 3.4–3 below.

$$ILPA = ULPA_p\, GLA_p + \Sigma\, (ULPA_i\, GLA_i) = [ULPA_p\, GLA_p + (ULPA_{f1}\, GLA_{f1} + ULPA_{f2}\, GLA_{f2} \ldots ULPA_{fn}\, GLA_f)]$$

Equation 3.4–3

Where:

i = numerical subscript (1,2, . . . n) for each secondary function with 10% or more of the gross lighted area of the building.

n = number of secondary functions.

ILPA = Interior Lighting Power Allowance, in Watts.

$ULPA_p$ = Unit Lighting Power Allowance of the predominant function based on the gross lighted area of the entire building, from Table 3.4–1, in W/ft^2.

$ULPA_f$ = Unit Lighting Power Allowance of qualifying secondary functions based on the gross lighted area of the entire building, from Table 3.4–1, in W/ft^2.

GLA_p = Gross lighted area of the predominant function of the proposed building.

GLA_f = Gross lighted area of each qualifying secondary function.

3.4.4.3 *Lighting compliance in partially defined speculative buildings.* For defined functions in partially defined speculative buildings, the total connected lighting power shall not exceed the interior lighting power allowance for that portion of the building. When determining the ILPA for those cases, the gross lighted area of the entire building must be used.

3.5 Lighting—System Performance Compliance Alternative

3.5.1 Purpose

3.5.1.1 This subsection provides a procedure for determining the maximum lighting power allowance for buildings, roads and grounds. It allows the designer to take credit for the use of daylighting and other lighting controls. It also serves as a basis for estimating the lighting heat gain and lighting energy use for Section 5.0.

3.5.2 General

3.5.2.1 The total Connected Lighting Power (CLP) in a building, including permanently installed lighting plus supplemental or task related lighting provided by movable fixtures or plug-in luminaires, shall not exceed the Interior Lighting Power Allowance (ILPA). A Lighting Power Control Credit (LPCC), taken for individual spaces, may only be utilized for credit to connected lighting power in those spaces for which credit is claimed.

3.5.2.2 *Compliance for lighting in partially defined speculative buildings.* The total connected lighting power of lighting designs of defined areas of partially defined speculative buildings

shall not exceed the interior lighting power allowance for those areas of the building for which lighting has been designed.

3.5.3 The Lighting Power Budget (LPB) of each interior space shall be determined in accordance with Equation 3.5–1.

$$LPB = (A \times UPD_b \times AF) + LPCC$$

Equation 3.5–1

Where:

LPB = Lighting power budget of the space, in watts

A_r = Area of the room at the horizontal lighted working place, ft^2

UPD_b = Base Unit Power Density, W/ft^2, (Table 3.5–1)

AF = Area factor of the room, (Figure 3.5–1)

LPCC = Lighting Power Control Credit, as determined by § 3.5.6

3.5.3.1 The room area (A) shall be calculated from the inside dimensions of the room.

3.5.3.2 The Base Unit Power Density (UPD) shall be selected from Table 3.5–1. For applications to areas or activities other than those given, select values for similar areas or activities.

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TABLE 3.5-1
BASE UPD (P_b) FOR AREA/ACTIVITY

AREA/ACTIVITY	1989 UPD	1989 NOTE	1993 UPD	1993 NOTE
COMMON ACTIVITY AREAS				
Auditorium	1.6	(d)	1.4	(d)
Corridor	0.8	(a)	0.8	(a)
Classroom/Lecture Hall	2.0		1.0	
Elec/Mech Equipment Room				
General	0.7	(a)	0.7	(a)
Control Rooms	1.5	(a)	1.5	(a)
Food Service				
Fast Food/Cafeteria	1.3		0.8	
Leisure Dining	2.5	(c)	1.4	(c)
Bar/Lounge	2.5	(c)	1.3	(c)
Kitchen	1.4		1.4	
Recreation/Lounge	0.7		0.5	
Stairs				
Active Traffic	0.6		0.6	
Emergency Exit	0.4		0.4	
Toilet & Washroom	0.8		0.5	
Garage				
Auto/Pedestrian Circulation	0.3		0.25	
Parking Area	0.2		0.2	
Laboratory	2.3		2.2	
Library				
Audio Visual	1.1		1.1	
Stack Area	1.5		1.5	
Card File & Cataloging	1.6		0.8	
Reading Area	1.9		1.0	
Lobby (General)				
Reception & Waiting	1.0		0.55	
Elevator Lobbies	0.8		0.4	
Atrium (Multi-Story)				
First 3 Floors	0.7		0.4	
Each Additional Floor	0.2		0.15	
Locker Room & Shower	0.8		0.6	
Offices				
Enclosed offices of less than 900 ft^2 and all open plan offices w/out partitions or w/partitions lower than 4.5 ft below ceiling.		(h)		(h)
Reading, Typing and Filing	1.8	(g)	1.3	(g)
Drafting	2.6	(g)	2.2	(g)
Accounting	2.1	(g)	1.8	(g)
Open plan offices, 900 ft^2 or larger, w/medium height partitions 3.5 to 4.5 ft below ceiling.		(h)		(h)
Reading, Typing and Filing	1.9	(a)	1.5	(a)
Drafting	2.9	(a)	2.6	(a)
Accounting	2.4	(a)	2.1	(a)
Open plan offices, 900 ft^2 or larger, w/partitions higher higher than 3.5 ft below ceiling.		(h)		(h)
Reading, Typing and Filing	2.2	(a)	1.7	(a)
Drafting	3.4	(a)	3.0	(a)
Accounting	2.7	(a)	2.4	(a)
Common Activity Areas				
Conference/Meeting Room	1.8	(d)	1.3	(d)
Computer/Office Equipment	2.1		2.1	
Filing, Inactive	1.0		1.0	
Mail Room	1.8		1.8	
Shop (Non-Industrial)				
Machinery	2.5		2.5	
Electrical/Electronic	2.5		2.5	
Painting	1.6		1.6	
Carpentry	2.3		2.3	
Welding	1.2		1.2	
Storage & Warehouse				
Inactive Storage	0.3		0.2	
Active Storage, Bulky	0.3		0.3	
Active Storage, Fine	1.0		0.9	
Material Handling	1.0		1.0	
Unlisted Space	0.2		0.2	

TABLE 3.5-1 (Continued)
BASE UPD (P_b) FOR AREA/ACTIVITY

AREA/ACTIVITY SPECIFIC BUILDINGS	1989 UPD	1989 NOTE	1993 UPD	1993 NOTE
Airport, Bus and Rail Station				
Baggage Area	0.8		0.75	
Concourse/Main Thruway	0.9		0.45	
Ticket Counter	2.5		1.3	
Waiting & Lounge Area	1.2		0.6	
Bank				
Customer Area	1.0		0.8	
Banking Activity Area	2.8		2.2	
Barber & Beauty Parlor	2.0		1.6	
Church, Synagogue, Chapel				
Worship/Congregational	2.3		1.3	
Preaching & Sermon/Choir	2.7		1.8	
Dormitory				
Bedroom	1.0		0.6	
Bedroom with Study	1.3		1.3	
Study Hall	1.8		0.9	
Fire & Police Department				
Fire Engine Room	0.7		0.7	
Jail Cell	0.8		0.4	
Hospital/Nursing Home				
Corridor	1.3	(a)	0.9	(a)
Dental Suite/Exam/Treat	1.6		1.4	
Emergency	2.3		2.0	
Laboratory	1.9		1.7	
Lounge/Waiting Room	0.9		0.6	
Medical Supplies	2.4		2.4	
Nursery	2.0		1.6	
Nurse Station	2.1		1.8	
Occu./Physical Therapy	1.6		1.4	
Patient Room	1.4		0.9	
Pharmacy	1.7		1.5	
Radiology	2.1		1.8	
Surgical & O.B. Suites				
General Area	2.1		1.8	
Operating Room	7.0		6.0	
Recovery	3.0		2.0	
Hotel/Conference Center				
Banquet Room/Multipurpose	2.4	(d)	1.4	(d)
Bathroom/Powder Room	1.2		0.6	
Guest Room	1.4		0.7	
Public Area	1.1		0.8	
Exhibition Hall	2.6		1.3	
Conference/Meeting	1.8	(d)	1.5	(d)
Lobby	1.9		1.3	
Reception Desk	2.4		2.4	
Laundry				
Washing	0.9		0.6	
Ironing & Sorting	1.3		1.3	
Museum & Gallery				
General Exhibition	1.9		1.2	
Inspection/Restoration	3.9		3.0	
Storage (Artifacts)				
Inactive	0.6		0.25	
Active	0.7		0.5	
Post Office				
Lobby	1.1		0.8	
Sorting & Mailing	2.1		2.1	
Service Station/Auto Repair	1.0		0.8	
Theater				
Performance Arts	1.5		1.1	
Motion Picture	1.0		0.75	
Lobby	1.5		1.0	
Retail Establishments (Merchandising & Circulation Area) Applicable to all lighting, including accent and display lighting, installed in merchandising and circulation areas				
Type A	5.6	(e)	6.0	(e)
Type B	3.2	(e)	2.9	(e)
Type C	3.3	(e)	2.7	(e)
Type D	3.0	(e)	2.5	(e)
Type E	2.8	(e)	2.4	(e)
Type F	2.7	(e)	2.6	(e)
Mall Concourse	1.4		0.6	
Retail Support Area				
Tailoring	2.1		2.1	
Dressing/Fitting Rooms	1.4		1.1	

TABLE 3.5-1 (Continued)
BASE UPD (P_b) FOR AREA/ACTIVITY

AREA/ACTIVITY	1989 UPD	NOTE (b)	1993 UPD	NOTE (b)
INDOOR ATHLETIC AREAS				
Seating Area, All Sports	0.4		0.4	
Badminton				
Club	0.5		0.5	
Tournament	0.8		0.8	
Basketball/Volleyball				
Intramural	0.8		0.8	
College	1.3		1.3	
Professional	1.9		1.9	
Bowling				
Approach Area	0.5		0.5	
Lanes	1.1		1.1	
Boxing or Wrestling (platform)				
Amateur	2.4		2.4	
Professional	4.8		4.8	
Gymnasium				
General Exercising & Recreation Only	1.0		1.0	
Handball/Racquetball/Squash				
Club	1.3		1.3	
Tournament	2.6		2.6	
Hockey, Ice				
Amateur	1.3		1.3	
College or Professional	2.6		2.6	
Skating Rink				
Recreational	0.6		0.6	
Exhibition/Professional	2.6		2.6	
Swimming				
Recreational	0.9		0.9	
Exhibition	1.5		1.5	
Underwater	1.0		1.0	
Tennis				
Recreational (Class III)	1.3		1.3	
Club/College (Class II)	1.9		1.9	
Professional (Class I)	2.6		2.6	
Tennis, Table				
Club	1.0		1.0	
Tournament	1.6		1.6	

NOTES:

(a) Area Factor of 1.0 shall be used for these spaces.

(b) Area Factor of 1.0 shall be used for all indoor athletic spaces.

(c) Base UPD includes lighting power required for clean-up purpose.

(d) A 1.5 adjustment factor is applicable for multi-functional spaces

(e) See Section 11.0 - Definitions for Classification of Retail Facilities

(f) These Standards do not prescribe UPD for dwelling units.

(g) Area factor shall not exceed 1.55.

(h) Minimum of 90% of all work stations shall be enclosed with partitions of the height prescribed.

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3.5.3.3 The Area Factor (AF) shall be determined from Figure 3.5–1 based on the floor area and ceiling height of the room. Rooms with identical ceiling height and activities, and with similar size may be treated as a group. The AF of such a group of rooms shall be determined from the average area of the rooms.

Equation 3.5–2 gives the formula used in developing Figure 3.5–1.

$$AF = 0.2 + 0.8 \exp. - \left[\left[\frac{10.21 \times (CH - 2.5)}{\sqrt{A_r}} - 1 \right] \times \mathrm{Ln}\,(0.9) \right]$$

Equation 3.5–2

Where:

AF = Area Factor

CH = Ceiling Height

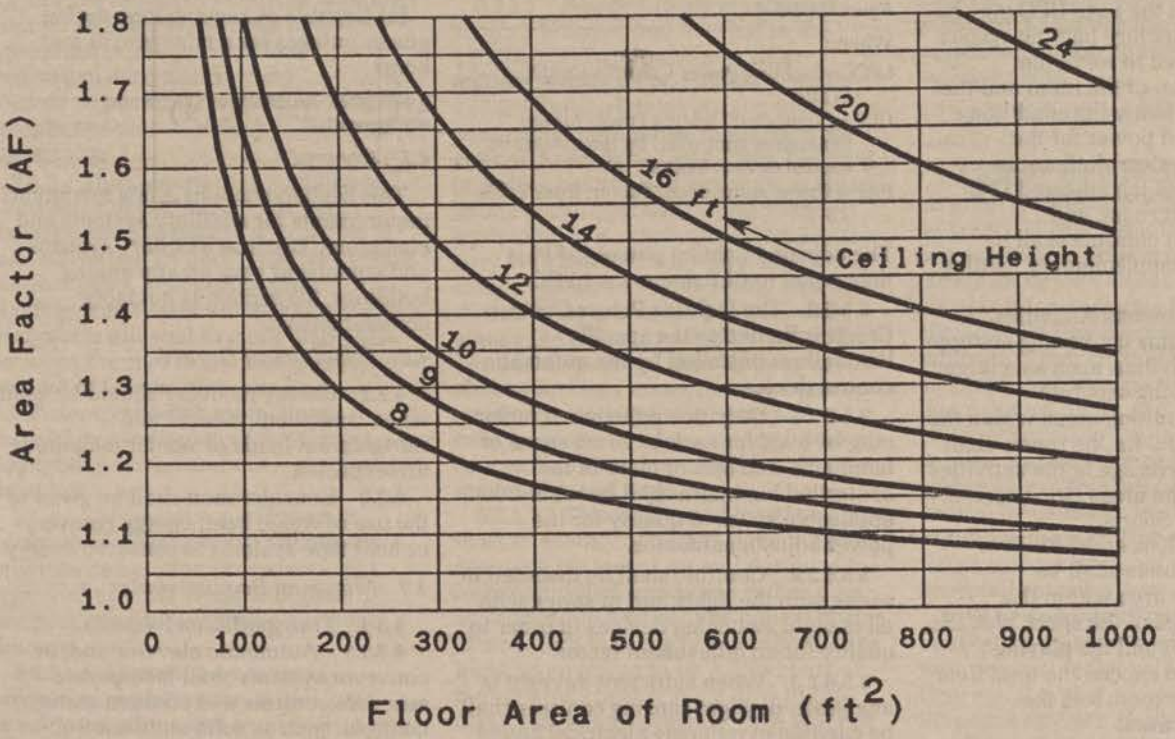
A_r = Floor Area of Room, ft^2

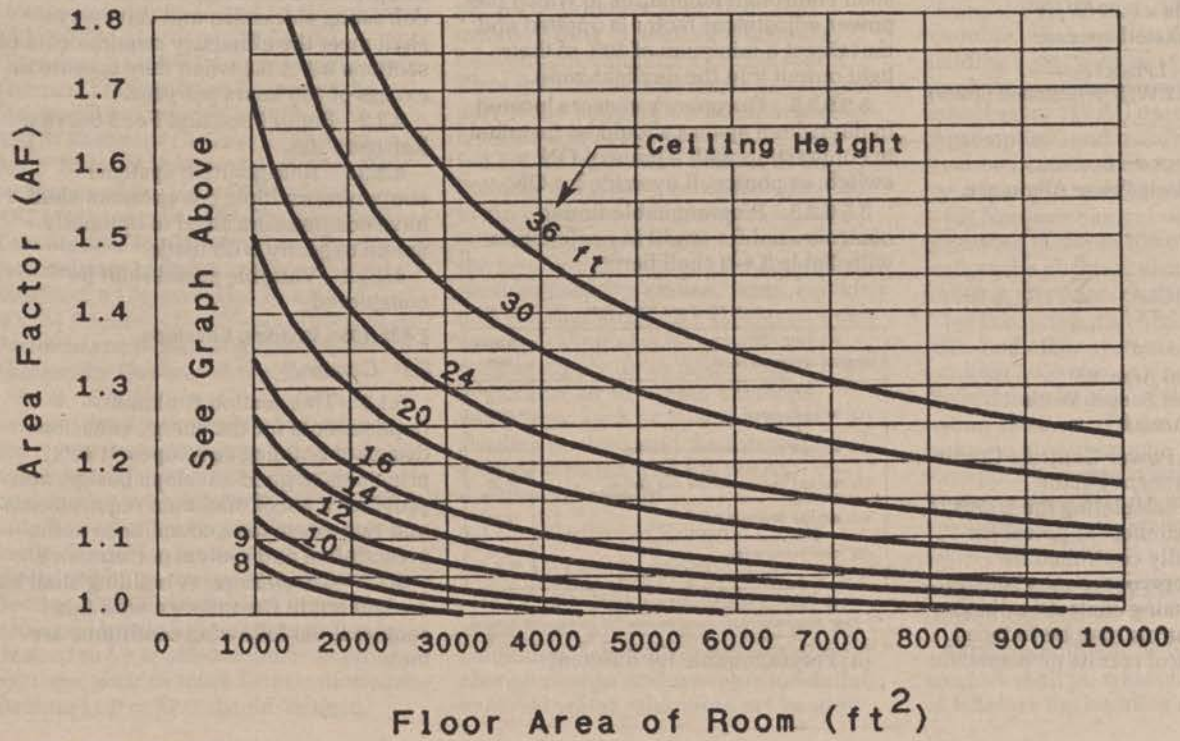
If AF < 1.0 then AF = 1.0

If AF > 1.8 then AF = 1.8

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Figure 3.5-1 Base Unit Power Density Area Factor





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3.5.4 Special Spaces and Activities.

3.5.4.1 Multi-Function Rooms.

3.5.4.1.1 For rooms serving multi-functions, such as hotel banquet/meeting rooms and office conference/presentation rooms, an adjustment factor of 1.5 times the base UPD may be used if a supplementary lighting system is actually installed to serve the secondary function of the room and the design meets the following conditions:

(a) The installed power for the supplementary system shall not be greater than 33% of the adjusted LPB calculated for that room; and

(b) Independent controls shall be installed for the supplementary lighting system.

3.5.4.2 Simultaneous Activities.

3.5.4.2.1 In rooms containing multiple simultaneous activities, such as a large general office having separate accounting and drafting areas within the same room, the LPB for the rooms shall be the weighted average of the activities in proportion to the areas being served.

3.5.4.3 Indoor Sports.

3.5.4.3.1 The floor area of indoor sports activities areas shall be considered as the area within the playing boundaries of the sport, plus the floor area 10 ft beyond the playing boundaries, not to exceed the total floor area of the indoor room less the spectator seating area.

3.5.5 *Calculation of Interior Lighting Power Allowance.* The system performance Interior Lighting Power Allowance (ILPA) shall be calculated in accordance with Equation 3.5–3. The ILPA shall include a 0.20 W/ft^2 allowance for unlisted spaces.

$$ILPA = (LPB_1 \times LS_1 + LPB_2 \times LS_2 \text{——} LPB_n \times LS_n) + 0.2\ W/ft^2 \times (\text{Unlisted Space})$$

Equation 3.5–3

Where:

ILPA = Interior Lighting Power Allowance, W/ft^2

$$\text{Unlisted space} = \{GLA - \sum_{i-1}^{n} LS_{i-n}\},\ ft^2$$

GLA = Gross Lighted Area, ft^2

LPB = Lighting Power Budget, Watts

LS = Listed Space Area, ft^2

3.5.6 Lighting Power Controls Credit and Power Adjustment Factor

3.5.6.1 When calculating the ULPA in this section, the connected power for lights automatically controlled by daylighting sensors, occupancy sensor, programmable timing controls, or lumen maintenance controls may be reduced by factoring control credits on a specific area by area basis. This credit is termed the Lighting Power Controls Credit (LPCC) and shall be determined in accordance with Equation 3.5–4:

$$LPCC = CLP \times PAF$$

Equation 3.5–4

Where:

LPCC = Lighting Power Controls Credit, Watts

CLP = Connected Lighting Power for the luminaires controlled by the automatic control device, Watts

PAF = Power Adjustment Factor, from Table 3.5–2

The adjusted lighting power (ALP) is then equal to CLP minus the LPCC.

3.5.6.2 The Lighting Power Controls Credit is limited to the specific luminaires controlled by the automatic control device.

3.5.6.2.1 Only one adjustment factor may be used for each building space or luminaire, and 50% or more of the controlled luminaire shall be within the applicable space to qualify for the power adjustment factor.

3.5.6.2.2 Controls shall be installed in series with the lights and in series with all manual switching devices in order to qualify for an adjustment factor.

3.5.6.2.3 When sufficient daylight is available, daylight sensing controls shall be capable of reducing electrical power consumption for lighting, continuously or in steps, to 50% or less of maximum power consumption.

3.5.6.2.4 Daylight sensing controls shall control all luminaires to which the power adjustment factor is applied and that direct a minimum of 50% of their light output into the daylight zone.

3.5.6.2.5 Occupancy sensors located in daylighted spaces should be installed in conjunction with a manual ON switch, or photocell override for ON.

3.5.6.2.6 Programmable timing controls used for credit in conjunction with Table 3.5–2 shall be:

Table 3.5-2
Power Adjustment Factor (PAF)

AUTOMATIC CONTROL DEVICE(S)	STANDARD PAF*
(1) Occupancy sensor	0.30
(2) Daylight Sensing continuous dimming	0.30
(3) Daylight Sensing multiple step dimming	0.20
(4) Daylight Sensing ON/OFF	0.10
(5) Lumen maintenance	0.10

* - Power Adjustment Factor cannot be used for incandescent fixtures.

(a) Programmable for different schedules for occupied and unoccupied days;

(b) Accessible for temporary override by occupants of individual zones, spaces or tasks, with automatic return to the original schedules; and

(c) Capable of keeping time during power outages for a minimum of four hours.

§ 435.104 Auxiliary systems and equipment.

4.1 General

This section contains a few minimum requirements for auxiliary systems and equipment. Because auxiliary systems and equipment vary greatly among buildings, the section is not more comprehensive.

4.2 Principles of Design

4.2.1 Energy recovery should be used when coincident thermal and refrigeration loads of similar magnitude are expected.

4.2.2 Consideration shall be given to the use of waste heat, energy recovery or heat tape systems to conserve energy.

4.3 Minimum Requirements

4.3.1 Transportation Systems.

4.3.1.1 Automatic elevator and/or conveyor systems shall incorporate schedule controls and efficient motor controls, such as solid state control devices.

4.3.2 Freeze Protection System.

4.3.2.1 Boilers or water heaters used for purposes such as freeze protection in fire protection storage vessels and defrosting sidewalks and driveways shall meet the efficiency requirements of sections 8.3 or 9.3 when they operate in excess of 750 hours per year.

4.3.3 Retail Food and Food Service Refrigeration.

4.3.3.1 Refrigeration systems containing multiple compressors shall have compressors sized to optimally match capacity with loads.

4.3.3.2 Variable speed shall be considered.

§ 435.105 Building Envelope.

5.1 General

5.1.1 This section contains requirements for the energy conscious design of building envelopes. It sets principles of good envelope design, and provides a set of minimum requirements and two alternative compliance paths—prescriptive and system performance.

5.1.2 *Compliance.* A building shall be considered in Compliance with this section if the following conditions are met:

5.1.2.1 The minimum requirements of Section 5.3 are met;

5.1.2.2 The design of the building envelope complies with either the prescriptive criteria of Section 5.4 or the system performance criteria of Section 5.5. For the design of buildings with high internal heat gains, unusual operating schedules, or that incorporate innovative design strategies, consideration shall be given to using the compliance paths set forth in Sections 11.0 or 12.0.

5.1.3 The prescriptive compliance alternative of Section 5.4 provides requirements for buildings designed to take advantage of perimeter daylighting, thermal mass, high performance glazings, and fenestration shading. The designer is allowed to make trade-offs between thermal mass, wall insulation, amount of fenestration, shading coefficients, shading projections, thermal transmittance of the glazing, daylighting for several different climate locations.

5.1.4 The systems performance compliance alternative of Section 3.5 provides calculation procedures that give credit for the benefits of more complex energy conserving envelope designs.

5.1.5 Information on thermal properties, performance of building envelope sections and components, and heat transfer shall be obtained from the *ASHRAE Handbook, 1985 Fundamentals Volume*. When information is not available from this source, the data shall be obtained from laboratory or field test measurements conducted in accordance with *ASTM Standard C–177–85*, "Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Guarded Hot Plate," *ASTM Standard C–518–85*, "Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter," *ASTM Standard C–236–80*, "Standard Test Method for Steady-State Thermal Performance of Building Assemblies by Means of a Guarded Hot Box," and *ASTM Standard C–976–82*, "Thermal Performance of Building Assemblies By Means of a Calibrated Hot Box."

5.1.6 *Daylighting Credit.* In this section, daylighting credit for reduced energy use resulting from the use of automatic lighting control devices in conjunction with fenestration, is given only for space heating and cooling loads. Credit for the reduced use of electric lighting energy is calculated in Section 3.5.6. If daylighting credit for reduced electric lighting energy use is desired to be applied to other building systems, such as more fenestration area, Section 11.0 or 12.0 should be used.

5.1.7 The requirements of this section are not intended to replace building loads calculation procedures.

5.2 Principles of Design

5.2.1 Building Loads

5.2.1.1 Building loads result from sources external and internal to the building. (1) External loads, from outdoor temperature, humidity, wind, and insolation, fluctuate daily and seasonally. (2) Internal loads from the activities conducted within the building, including heating and moisture produced by the occupants, lights, and process equipment (e.g., appliances, computers) vary with internal activities. Improving energy efficiency in a building depends on achieving a balance between and among the internal and external loads. The building design should, therefore, offset gains and losses of heat, light, and moisture between the interior and exterior of the building, among interior spaces, and over-time, (daily, seasonally, and annually).

5.2.1.2 This balance of loads can be most efficiently achieved if the building envelope is viewed as, and designed to be, a controlled membrane rather than an immutable barrier. The typical design of a modern building has considered the building envelope to be a fixed barrier that restricts heat and air flow to the maximum extent possible. This will not usually yield the most energy efficient building.

5.2.1.3 The desired goal of the energy design of the building envelope shall be to produce a controlled membrane that allows or prevents heat, light, and moisture flow to achieve a balance between internal and external loads. Thus the envelope becomes an integral part of the building's environmental conditioning systems.

5.2.1.4 To achieve control of the building envelope as a membrane, and to simultaneously achieve occupant comfort in the perimeter zones, many of the traditional building skin components must be used (insulation, mass, caulking and weather stripping). However, other concepts shall also be considered to temper supply air or utilize waste heat in exhaust air to temper envelope conditions, such as operable solar shading devices, and the integration of glazing systems with the HVAC distribution system.

5.2.1.5 Control of External Loads

5.2.1.5.1 Control of Conduction

(a) Controlled conductivity may be considered through the careful use of insulation, sensible (mass) or phase-change storage and movable insulation at levels which minimizes net heating and cooling loads on a time integrated (annual) basis.

(b) Unintentional or uncontrolled thermal bridges shall be minimized and considered in energy related calculations since they can radically alter the conductivity of a building envelope. Examples include wall studs, balconies, ledges, and extensions of building slabs.

5.2.1.5.2 Control of Infiltration (Heat Loss or Gain)

(a) Infiltration shall be minimized and all efforts to achieve a zero level shall be taken. This will minimize fan energy consumption in pressurized buildings during occupied periods and heat loss (or unwanted heat gain in warm climates) during unoccupied periods. Infiltration reduction shall be accomplished through design details that enhance the fit and integrity of building envelope joints in a way that may be readily achieved during building construction. This includes infiltration control by caulking, weather stripping, vestibule doors and/or revolving doors with construction meeting or exceeding accepted specifications.

(b) The quantity of mechanical ventilation must vary with the need, with recommended values at any given time equal to that required by ASHRAE Standard 62–1981. Higher levels of ventilation (e.g., economizers) shall be considered to substitute for mechanical cooling.

(c) Operable windows may be considered to allow for occupant controlled ventilation. When using operable windows, the design of the building's mechanical system must be carefully executed to minimize unnecessary HVAC energy consumption, and building operators must be cautioned about the improper use of the operable windows.

(d) Non-mechanical ventilation can be enhanced in the shape of the building as well as the physical elements of the building envelope, such as cupolas.

(e) For hotels and high rise dwelling units and other systems having exhaust totalling 3000 cfm or more, with annual operation in excess of 3000 hours and within 200 linear ft of simultaneous make-up air equipment, they shall incorporate energy recovery or treatment to ASHRAE 62–1981 quality levels and reuse exhaust air when allowed by code.

5.2.1.5.3 Control of Radiated Heat Losses and Gains

(a) Capability for occupant radiant comfort shall be maintained regardless of whether the building envelope is

designed to be a static or dynamic membrane. Opaque surfaces shall be designed so that the *average* inside surface temperatures will remain within 5 °F of room temperature in the coldest anticipated weather (i.e., winter design conditions), and the coldest inside surface will remain within 25 °F of the room temperature.

(b) In a building with time-varying internal heat generation, thermal mass may be considered for controlling radiant comfort. In the perimeter zone, thermal mass is more effective when it is positioned internal to the envelope insulation.

(c) The effective control of solar radiation is critical to the design of energy-efficient buildings due to the high level of internal heat production already present in most commercial building types. In some climates, the lighting energy consumption savings due to daylighting techniques can be greater than the heating and cooling energy penalties from additional glazed surface area, provided that the building envelope is properly designed for daylighting and lighting controls are installed and used. In other climates they may not. Daylighting designs are most effective if direct solar beam radiation is not allowed to cause glare in building spaces.

(d) The transparent portions of the building envelope shall be designed to prevent solar radiant gain above that necessary for effective daylighting and solar heating. On south-facing facades, the use of low shading coefficients is generally not as effective as external physical shading devices in achieving this balance. Light shelves offer a very effective means of admitting daylight while shading the view glazing and simultaneously allowing occupants to manipulate interior shading devices (draperies, blinds) without eliminating day light.

(e) The solar spectrum contains a range of wavelengths including visible and infrared (heat). Designers shall consider which portion of the spectrum to admit into the building. For example, low emissivity, high-visible-transmittance glazings may be considered for the effective control of radiant heat gains and losses. For shading control designers may consider the careful use of vegetation that can block excess gain, year-around or seasonally depending on the plant species chosen.

5.3 Minimum Requirements

5.3.1 Overall Thermal Transmittance (U_o)

5.3.1.1 The overall thermal transmittance of the building envelope above grade assembly shall be calculated as follows:

$$U_o = \Sigma U_i A_i / A_o = (U_1A_1 + U_2A_2 + \ldots + U_nA_n) / A_o$$

Equation 5.3–1

Where:

U_o = the area weighted average thermal transmittance of the gross area of the building envelope assembly, e.g., the exterior wall assembly including fenestration and doors; roofs and ceiling assembly; or the floor assembly, Btu/h·ft ^{2}·°F.

A_o = the gross area of the envelope assembly, ft ^{2}.

U_i = the thermal transmittance of each individual path of the envelope assembly (see Section 5.3.2), $U_i = 1/R_i$ (where R_i is the total resistance to heat flow of an individual path through an envelope assembly).

A_i = the area of each individual element of the envelope assembly, ft ^{2}.

5. 3. 2 *Thermal Resistance of Below Grade Components (R)*

5.3.2.1 In calculating the thermal resistance of all below grade components, the thermal performance of the adjacent ground shall be excluded.

5.3.2.2 *Slabs*

5.3.2.2.1 The R-value required for slabs refers only to the insulation materials. Insulative continuity shall be maintained in the design of slab edge insulation systems. Continuity shall be maintained from the wall insulation through the slab/wall/footing intersection to the body of the slab edge insulation.

5.3.2.2.2 Slab-on-grade floors shall have insulation around the perimeter of the floor with the thermal resistance (R_u) of the insulation specified in accordance with Figure 5.5–2. The slab insulation specified shall extend either in a vertical plane downward from the top of the slab for the minimum distance shown or downward to the bottom of the slab then in a horizontal plane beneath the slab or outward from the building for the minimum distance shown. The horizontal length, or vertical depth, of insulation required varies from 24 in. to 48 in. depending upon the R-value selected. For heated slabs, an R of 2 shall be added to the thermal resistance required.

5.3.2.2.3 Vertical insulation shall not be required to extend below the foundation footing. There are no insulation requirements for slabs in locations having less than 3,000 HDD65 or for footings extending less than 18 in. below grade.

5.3.2.2.4 The dimensional requirements for horizontal insulation refers to the insulation materials only. Horizontal applications shall have a thermal break in the slab edge that provides continuity between the wall insulation on the slab and the horizontal insulation.

Below Grade Walls

5.3.2.3.1 The R-value required for Below Grade Walls refers to the overall R-value of the wall assembly excluding air film coefficients and the thermal performance of the adjacent ground.

5.3.3 Thermal Transmittance (U_i) of an Envelope Assembly

5.3.3.1 The thermal transmittance of each envelope assembly shall be determined with due consideration of all major series and parallel heat flow paths through the elements of the assembly. Compression of insulation shall be considered in determining the thermal resistance.

5.3.3.2 The thermal transmittance of opaque assemblies U_i shall be determined using a series path procedure that corrects parallel paths, such as insulation and studs in a wall cavity or the roof assembly shown in Figure 5.3–1. Table 5.3–1 prescribes the procedure to be used for Subsections 5.3.3.2.1 and 5.3.3.2.2.

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Figure 5.3-1
Example of Total Resistance of an Envelope Assembly
Including Series Resistance and Parallel Path Equivalent
Resistance Elements

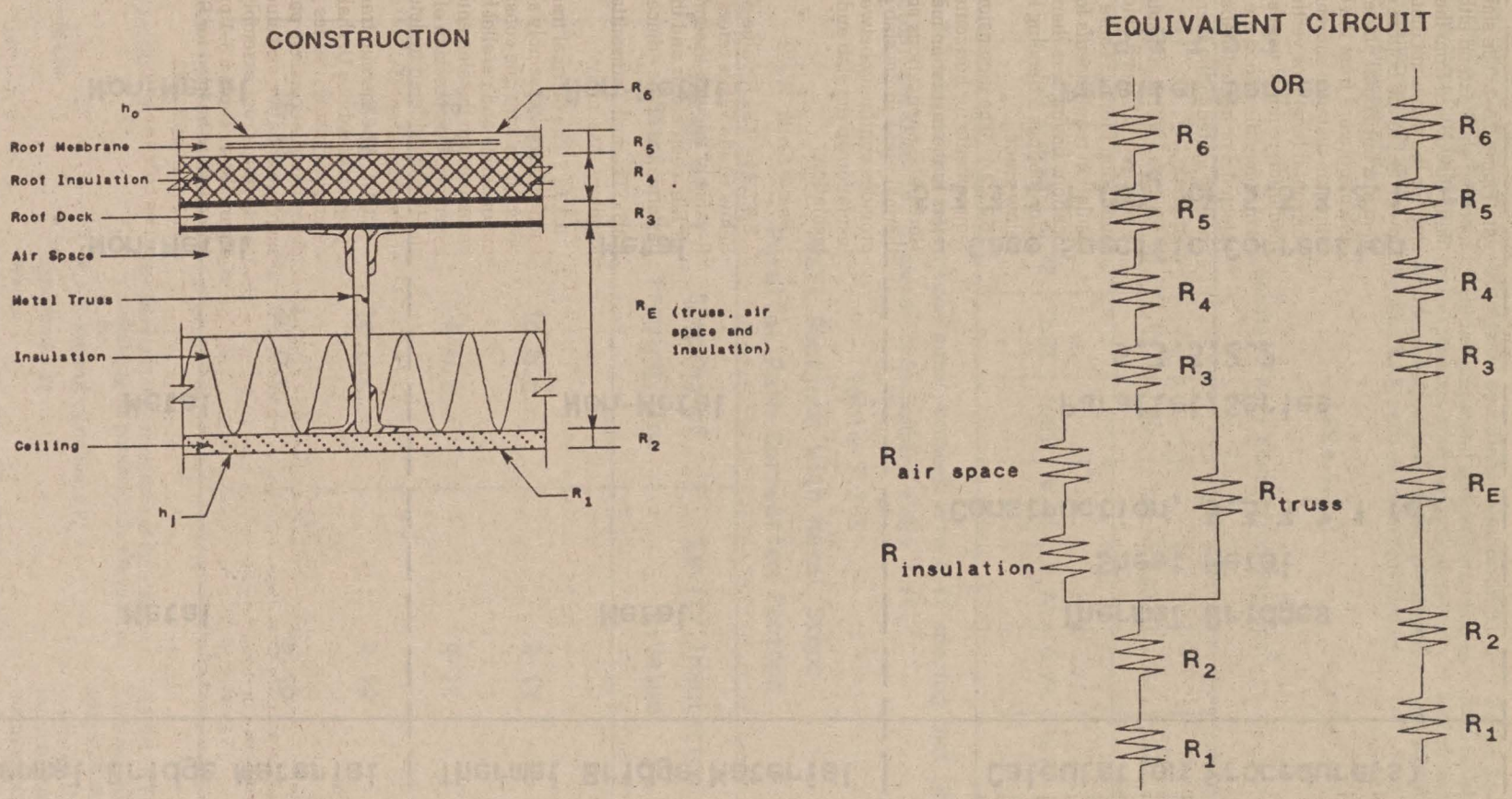


Table 5.3-1

Calculation Procedures for Thermal Transmittance Through Opaque Envelope Assemblies

Material Attached To Thermal Bridge Material	Thermal Bridge Material	Calculation Procedure(s)
Metal	Metal	Thermal Bridges Sheet Metal Construction, 5.3.3.2.1 (d)
Metal	Non-Metal	Parallel/Series 5.3.3.2.2
Non-Metal	Metal	Case Specific Correction 5.3.3.2.1 (b), or 5.3.3.2.1 (c)
Non-Metal	Non-Metal	Parallel/Series 5.3.3.2.2

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5.3.3.2.1 For envelope assemblies containing metal framing, the U_i shall be determined by using one of the following methods:

(a) Results from laboratory or field test measurements, using one of the procedures specified in Section 5.1.5.

(b) For non-metal surfaces attached to metal framing, where data from tests conducted using procedures specified in Section 5.1.5, such as those provided in Tables 5.3–2 and 5.3–3, is available, the total resistance of the series path may be calculated using Equations 5.3–2a and 5.3–2b, and illustrated in Figure 5.3–1:

Table 5.3-2

Parallel Path Correction Factors[1]

Bridged R-Value	0	5	10	15	20	25	30	35	40	45	50	55
Correction Factor	1.0	0.96	0.92	0.88	0.85	0.81	0.79	0.76	0.73	0.71	0.69	0.67

1. Table 5.3-2 values are based upon metal trusses with 4 ft spacing that penetrate the insulation, and 0.66 in. diameter crossmembers every 1 ft.

Table 5.3-3

Wall Sections With Metal Stops

Parallel Path Correction Factors

Size of Members	Gauge of Stud	Spacing of Framing, In.	Cavity Insulation R-Value	Correction Factor
2 X 4	18-16	16 o.c.	R-11	0.50
2 X 4	18-16	24 o.c.	R-11	0.60
2 X 6	18-16	16 o.c.	R-19	0.40
2 X 6	18-16	24 o.c.	R-19	0.45

$$U_i = 1/R_t$$

Equation 5.3–2a

$$R_t = R_i + R_e$$

Equation 5.3–2b

Where:

R_t = the total resistance of the envelope assembly

R_i = the resistance of the series elements (for i=1 to n), excluding the parallel path element(s)

R_e = the equivalent resistance of the element containing the parallel path, the value of R_e is:

R_e = (R-value of insulation) × F_c

Equation 5.3–2c

Where:

F_c = the correction factor from Table 5.3–2 or Table 5.3–3.

(c) For elements other than those covered in item (b) above, the zone method described in Chapter 23 of the *ASHRAE Handbook, 1985 Fundamentals Volume* shall be used. The equations on pages 23.13 and 23.14 shall be used.

(d) For sheet metal construction, internally insulated with an internal metal structure bonded on one or both sides to a metal skin or covering (see Figure 5.3–2), the following steps shall be used to calculate the U-value of the envelope construction.

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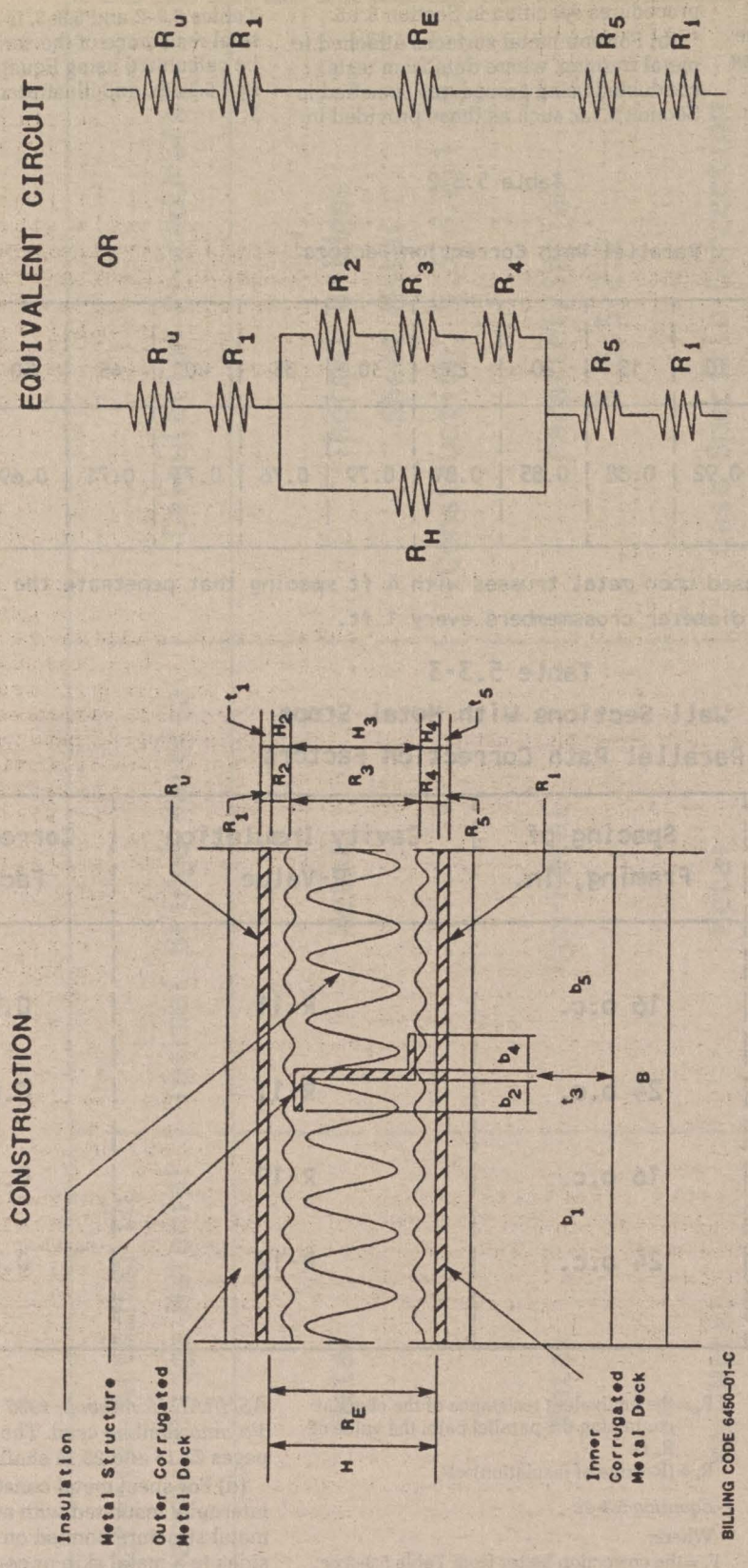


Figure 5.3-2
A Generalized Built-Up Sheet Metal
Construction and Corresponding Resistance Network

(1) First, calculate the resistance of the thermal bridge R_{TB} as follows:

$$R_{TB}=R_1+R_2+R_3+R_4+R_5$$

Equation 5.3-3

(i) Where R_1, the effective mean flow path along the outer metal surface, is calculated by:

$$R_1 = \frac{1}{2 \times L \sqrt{h_1 k_1 T_1}} - \frac{1}{B \times L \times h_1}$$

Equation 5.3-4

(ii) And if it occurs, the resistance of insulation (R_2) between the outer metal surface and the metal structural member is calculated by:

$$R_2 = \frac{1}{k \times L \left[\frac{b_2}{H_2} + \frac{2}{\pi} \right]}$$

Equation 5.3-5

(iii) And, the resistance of the structural member (R_3) is calculated by:

$$R_3 = \frac{h_3}{L \times t_3 \times k_3}$$

Equation 5.3-6

(iv) And if it occurs, the resistance of insulation (R_4) between the inner metal surface and the purlin flange is calculated by:

$$R_4 = \frac{1}{k \times L \left[\frac{b_4}{H_4} + \frac{2}{\pi} \right]}$$

Equation 5.3-7

(v) And finally, the effective mean flow path along the inner metal surface (R_5) is calculated by:

$$R_5 = \frac{1}{2 \times L \sqrt{h_5 k_5 T_5}} - \frac{1}{B \times L \times h_5}$$

Equation 5.3-8

Where:
L=total length
h=coefficient of heat transfer
k=thermal conductivity
T=temperature
B=total width
H=partial height
t=thickness of sheet metal

(2) Then calculate the parallel path resistance of the homogeneous insulation R_H as follows:

$$R_H = \frac{\Sigma \left[\frac{H}{K} \right]}{B \times L}$$

Equation 5.3-9

(3) Then obtain the overall construction resistance R_C by combining R_H and R_{TB} as two parallel resistances:

$$R_C = \frac{R_{TB} \times R_H}{R_{TB} + R_H}$$

Equation 5.3-10

(4) Then add the inside and outside surface resistances R_i and R_u to get the total resistance R_{TOT}:

$$R_{TOT}=R_C+R_i+R_u$$

Equation 5.3-11

(5) The total area resistance m_{TOT} is then calculated by:

$$m_{TOT}=R_{TOT} \times B \times L$$

Equation 5.3-12

(6) And finally, obtain the U-value by:

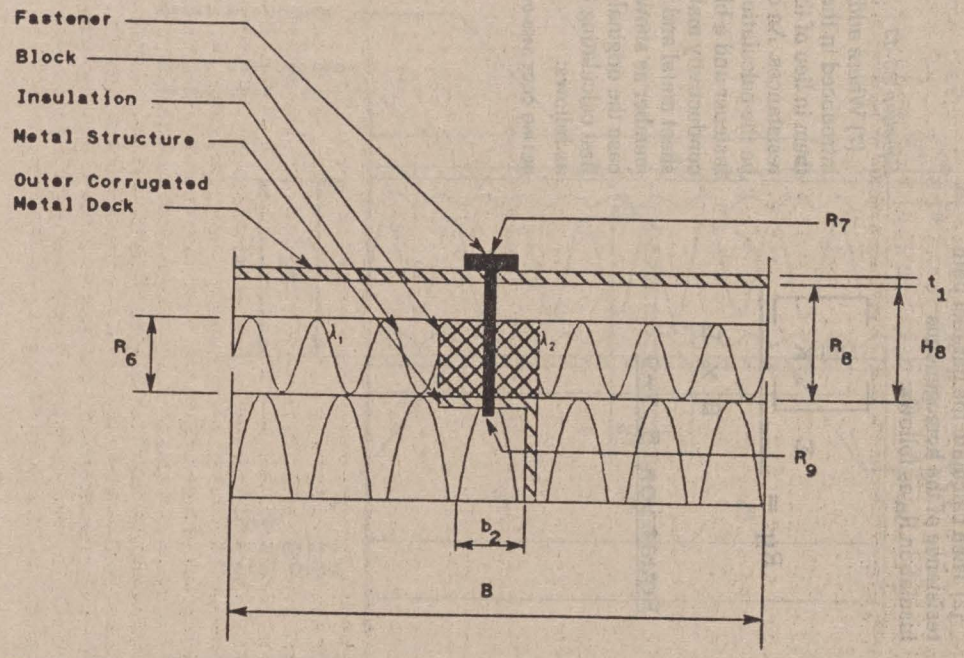
$$U = \frac{1}{m_{TOT}}$$

Equation 5.3-13

(7) Where additional resistances are introduced in the construction, introduce them in lieu of the above (R_2 and R_4) resistances. An example of this would be the calculation of both a metallic fastener and a block of higher thermal conductivity material between the outer sheet metal and the internal structural member as shown in Figure 5.3-3. In this case the original R_2 is re-calculated by first calculating the thermal bridge R_{2TB} as follows:

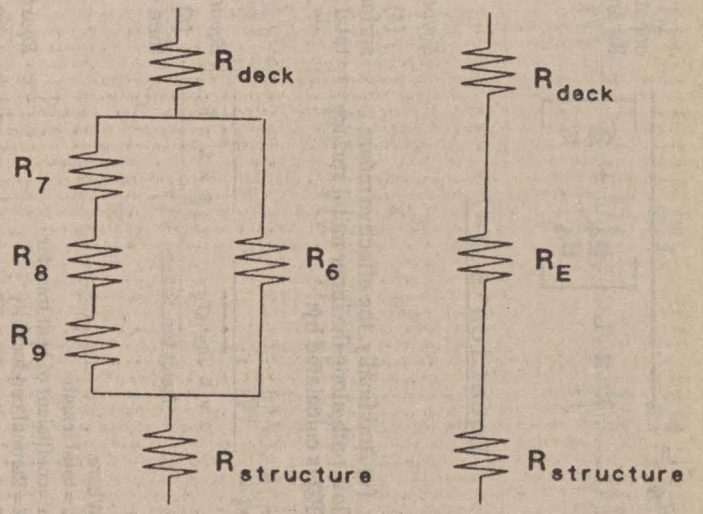
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Figure 5.3-3
Detail of Heat Transfer From a Metal Surface to a Structure Through a Metal Fastener and Insulating Block With Corresponding Resistance Network



EQUIVALENT CIRCUIT

OR



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$$R_{2TB} = R_7 + R_8 + R_9$$

Equation 5.3–14

(i) Where the resistance of the heads of number (N) of fasteners per length (L), adjusting for surface resistance in common with the sheet metal surface, is calculated by:

$$R_7 = \frac{1}{N \times 2 \times \pi \times \lambda_1 \times t_1 \times f(\beta r_1, \infty)} - \frac{1}{a_1 \times B \times L}$$

Equation 5.3–15

Where:

N = the number of fasteners in Length L

f = the function of B·r for different values of the ratio r_2/r_1 given in Figure 5.3–4.

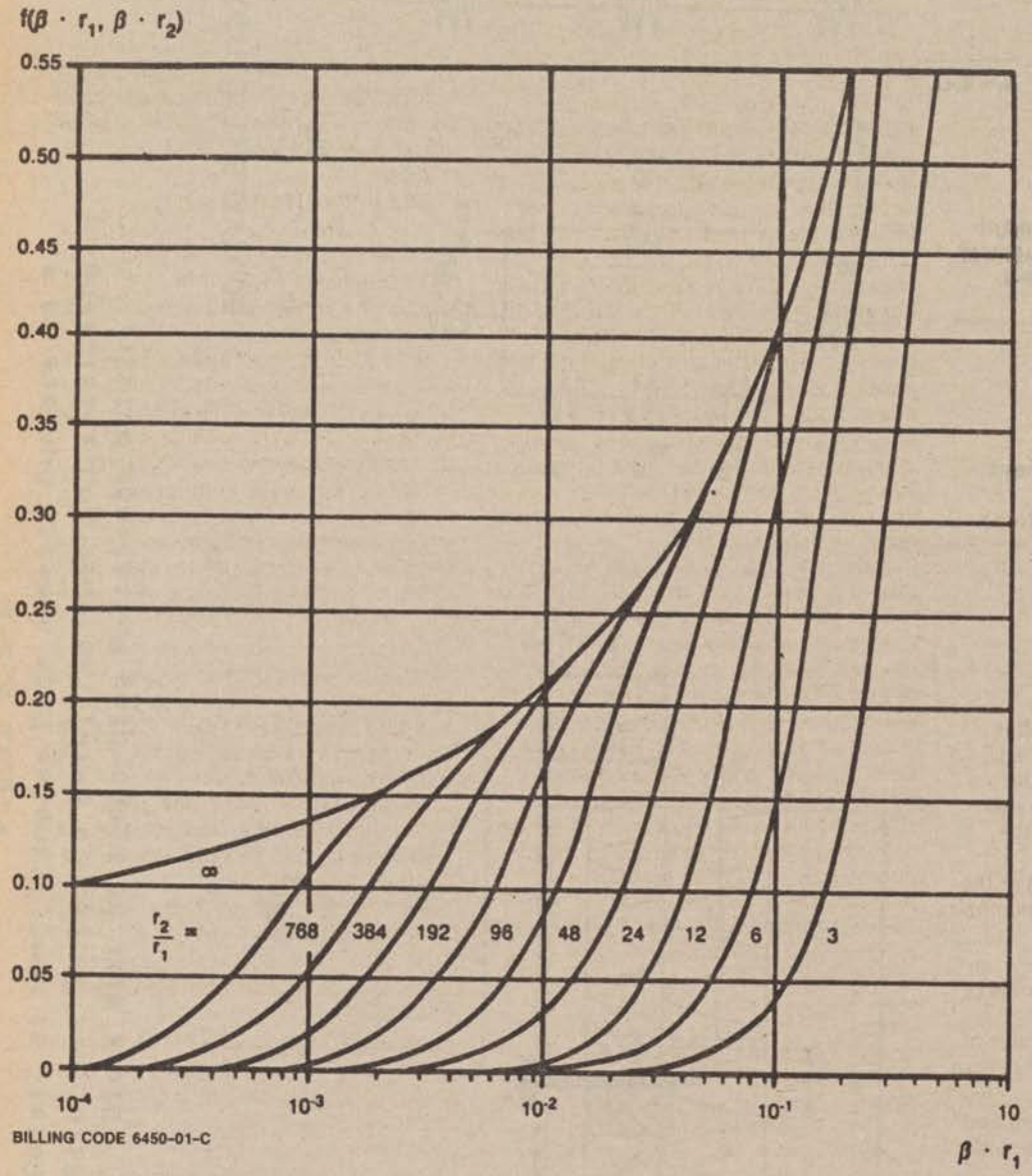
$$\beta = \sqrt{\quad} = \frac{\sqrt{h}}{\lambda x t}$$

r_1 = the radius of the fastener shank.

r_2 = the outer radius of the fastener head.

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Figure 5.3-4 - The Function (f) Given as a Function of βr and for Different Values of the Ratio, r_1/r_2



BILLING CODE 6450-01-C

(ii) And, the resistance of the shank of the fastener is calculated by:

$$R_s = \frac{H_s}{N \times \lambda \times \pi \times r^2_1}$$

Equation 5.3-16

(iii) And, finally, the resistance of the connection to the internal structural member is calculated by:

$$R_9 = \frac{l_n \times \frac{b_2}{r_1}}{N \times 2\pi \times t}$$

Equation 5.3-17

(iv) Then calculate the resistance of the block of higher thermal conductivity material as follows:

$$R_6 = \frac{1}{L_1 \left[1 \frac{b}{H_8} + 2 \frac{2}{\pi} \right]}$$

Equation 5.3-18

Where:

$\lambda_1 > \lambda_2$

(v) Then obtain the resistance to be used in lieu of the original R_2 by:

$$R_2 = \frac{R_{TB} \times R_6}{R_{TB} + R_6}$$

Equation 5.3-19

5.3.3.2.2 For envelope assemblies containing Non-Metal Framing, the U_i shall be determined from one of the laboratory or field test measurements specified in Section 5.1.5 or from the ASHRAE series-parallel method. Formulas in Chapter 23, page 23.2 of the *ASHRAE Handbook, 1985 Fundamentals Volume*, shall be used for these calculations.

5.3.3.3 The thermal transmittance of fenestration assemblies shall be corrected to account for the presence of sash, frames, edge effects and spacers in multiple-glazed units.

If thermal transmittances of sash and frames are known, Equation 5.3-1 shall be used, otherwise the thermal transmittance offenestration assemblies shall be calculated as follows:

$$U_{of} = \Sigma\, U_{gi} \times F_{f,i} \times A_i / A_{of} =$$
$$(U_{g,1} \times F_{e,1} \times A_1 + U_{g,2 \times Ff,2} \times A_2 + \ldots$$
$$+ U_{g,n} \times F_{f,n} \times A_n) / A_{of}$$

Equation 5.3-20

Where:

A_i = area of ith fenestration assembly

i = numerical subscript (1,2, . . . n) refers to each of the various fenestration assemblies present in the wall

n = the number of fenestration assemblies in the wall assembly.

U_{of} = the overall thermal transmittance of the fenestration assembly, including sash and frames, Btu/h·ft²°F.

U_g = the thermal transmittance of the central area of the fenestration excluding edge effects, spacers in multiple-glazed units, and the sash and frame, Btu/h·ft²°F.

$F_{f,i}$ = framing adjustment factor for sash, frames, etc.

A_{of} = the area of all fenestration including glazed portions, sash, frames, etc.

5.3.3.3.1 Values for U_g shall be the winter value obtained from the glazing manufacturer's test data or from Table 13 or Figure 14 of Chapter 27 of the *ASHRAE Handbook, 1985 Fundamentals Volume*. Values for F_f shall be obtained from the frame manufacturer's test data or from the average adjustment factor for a particular product in Table 13, Part C, in Chapter 27 of the *ASHRAE Handbook, 1985 Fundamentals Volume*. For glass products with a U value of 0.45 or less, use the F_f for triple insulated glazing. Alternatively, values of the U_g°F product may be used from manufacturer's test data for open window and frame assemblies tested as a unit provided that the tests referenced edge-effects and windspeed are accounted for winter tested U-values are used.

5.3.4 Gross Area of Envelope Components

5.3.4.1 The gross area of a roof assembly consists of the total surface of the roof assembly exposed to outside air or unconditioned spaces. The roof assembly shall include all roof/ceiling components through which heat may flow between indoor and outdoor environments including skylight surfaces, but excluding service openings.

5.3.4.1.1 For thermal transmittance purposes, when return air ceiling plenums are employed, the roof/ceiling assembly shall not include the thermal resistance of the ceiling, or the plenum space, as part of the total thermal resistance of the assembly.

5.3.4.2 The gross area of a floor assembly over outside or unconditioned space consists of the total surface of the floor assembly exposed to the outside air or an unconditioned space. The floor assembly shall include all floor components through which heat may flow between indoor and outdoor or unconditioned space environments.

5.3.4.3 The gross area of exterior walls enclosing a heated or cooled space is measured on the exterior and consists of the opaque wall including between floor spandrels, peripheral edges of flooring, window areas including sash and door areas, but excluding vents, grilles and pipes.

5.3.5 Shading Coefficients

5.3.5.1 The Shading Coefficient (SC) for fenestration shall be obtained from Chapter 27 of the *ASHRAE Handbook, 1985 Fundamentals Volume* or from manufacturers' test data. For the prescriptive or system performance envelope compliance calculations in Sections 5.4 and 5.5, a factor, SC_x, is used. SC_x is the Shading Coefficient of the fenestration, including internal and external shading devices, but excluding the effect of external shading projections, which is calculated separately. The shading coefficient used for louvered shade screens shall be determined using a profile angle of 30°, as found in Table 41, Chapter 27 of the *ASHRAE Handbook, 1985 Fundamentals Volume*.

5.3.6 Wall Heat Capacity

5.3.6.1 Heat capacity in Btu/°F·ft², shall be determined as the product of the average wall weight in lb/ft² and the weighted average specific heat of the wall component in Btu/lb.°F.

5.3.6.2 If the wall system is defined as having exterior insulation only the properties of the wall elements inside of the insulation layer shall be used in determining the wall heat capacity.

5.3.6.3 For walls with integral insulation, all of the elements of the entire wall system may be used in the calculation of the wall heat capacity.

5.3.7 Air Leakage and Moisture Migration

5.3.7.1 The requirements of this subsection apply only to those locations separating the outdoors from interior building conditioned space. Compliance with the criteria for air leakage through building components shall be determined by *ASTM E 283-1984*, "Standard Method of Test Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors."

5.3.7.2 Air Leakage Requirements for Fenestration and Doors

5.3.7.2.1 Fenestration meeting the following standards for air leakage is acceptable:

(a) *ANSI/AAMA 101-85*, "Aluminum Prime Windows."

(b) *ASTM D-4099-83*, "Specifications for Poly(VinylChloride) (PVC) Prime Windows."

(c) *ANSI/NWMA I.S. 2-80*, "Wood Window Units (Improved Performance Rating Only)."

5.3.7.2.2 Sliding Doors shall meet one of the following standards for air leakage:

(a) *ANSI/AAMA 101-85*, "Aluminum Sliding Glass Doors."

(b) *NWMA I.S. 3-83*, "Wood Sliding Patio Doors."

5.3.7.2.3 Commercial entrance swinging or revolving doors shall limit air leakage to a rate not to exceed 1.25 cfm/ft² of door area, at standard test conditions.

5.3.7.2.4 Residential swinging doors shall limit air leakage to a rate not to exceed 0.5 cfm/ft² of door area, at standard test conditions.

5.3.7.2.5 Where spaces have regular high volume traffic through the building envelope, such as retail store entrances and loading bays, estimates of air leakage for HVAC system design shall be based on air exchange by traffic flow.

5.3.7.2.6 To reduce infiltration due to stack-effect draft in multi-story buildings, the use of vestibules or revolving doors on all primary entries and exits shall be considered.

5.3.7.3 Air Leakage Requirements for Exterior Envelope Joints and Penetrations.

5.3.7.3.1 Exterior joints, cracks, and holes in the building envelope, such as those around window or door frames, between wall and foundation, between wall and roof, through wall panels at penetrations of utility services or other service entry through walls, floors, and roofs, between wall panels, particularly at corners and changes in orientation, between wall and floor, where floor penetrates wall, around penetrations of chimney, flue vents, or attic hatches, shall be caulked, gasketed, weather stripped, or otherwise sealed.

5.3.7.4 Moisture Migration Requirements for Exterior Envelopes

5.3.7.4.1 The building envelope shall be designed to prevent moisture migration that leads to deterioration in insulation performance of the building.

5.3.7.4.2 Vapor retarders shall be considered to prevent moisture from collecting within the envelope. Designs should incorporate the principles of *ASHRAE Handbook, 1985 Fundamentals Volume*, Chapter 21, "Moisture in Building Construction."

5.3.8 Shell Buildings

5.3.8.1 The following conditions shall be assumed if determination of building envelope compliance occurs prior to the determination of lighting power density, equipment power density, or fenestration shading device characteristics:

5.3.8.1.1 *Lighting Power Density and Equipment Power Density.* For Section 5.4, the total power density shall be assumed to be those listed in Table 5.3–4. For Section 5.5, the values in Table 5.3–4 shall be assumed to be apportioned as ⅔ lighting and ⅓ for other equipment. Note that these are not recommended design values, but are for compliance purposes only.

Table 5.3-4
Assumed Internal Loads For Shell And Speculative Buildings

	HDD65<3000	3000<HDD65<6000	HDD65>6000
Shell Buildings	3.0 w/ft²	2.25 w/ft²	1.50 w/ft²
Speculative Buildings	Use the ULPA from Table 3.4-1 and the average equipment power density from Table 5.4-32.		

5.3.8.1.2 *Fenestration shading devices.* Only those shading devices that are part of the design when it is being evaluated for compliance shall be considered when determining compliance.

5.3.8.1.3 *Daylighting controls for electric lighting.* Only those controls that are part of the design when it is being evaluated for compliance shall be considered when determining compliance.

5.3.9 Buildings Located in Climates With Greater Than 15,000 HDD Base 65 °F.

5.3.9.1 For locations with a heating degree-day base (HDD) 65 °F greater than 15,000, the envelope criteria listed in Table 5.3–5 shall apply, and the window wall ratio (WWR) shall be less than or equal to 0.20.

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Table 5.3-5
Requirements For Locations With
Heating Degree-Days Base 65 °F Greater Than 15,000

Envelope Statement	Maximum U Value	Minimum R Value	Notes
U_o opaque wall for buildings with ≥ 12,000 ft² of gross floor area [1,3]	0.053		See 5.3.3.2
U_o opaque wall for buildings with < 12,000 ft² of gross floor area [2,3]	0.040		
U fenestration	0.450		Use Eq 5.3-20
U roof	0.024		
Floor over unconditioned spaces[4]	0.023		See 5.3.3.2
Wall below grade[5]		18	

Slab-on-grade:

Position	Minimum Insulation Distance, in.	Minimum R Value: Unheated Slab	Minimum R Value: Heated Slab
Horizontal	48	15	17
Vertical	48	6	8

Skylights: Not allowed for locations with HDD65 greater than 15,000.

Footnotes for Table 5.3-5:

1. For window to wall ration, WWR ≤ 0.20. Shall include corrections for parallel paths within the envelope assembly. For WWR > 0.20, see Footnote (3).
2. For window to wall ratio, WWR ≤ 0.15. Shall include corrections for parallel paths within the envelope assembly. For WWR > 0.15, see Footnote (3).
3. The window to wall ratio and the stated U-values for opaque wall and fenestration may be increased or decreased provided that the combined thermal wall transmittance shall not exceed 0.125 for buildings ≥ 12,000 ft², and 0.091 for buildings < 12,000 ft².
4. Including pile-supported floors and elevated floors.
5. Installed on the exterior of perimeter foundation walls for heated foundations.

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5.3.10 Daylight Credits for Skylights.

5.3.10.1 Skylights used in conjunction with automatic lighting controls for daylighting can significantly reduce the lighting energy consumption, thereby more than offsetting the increase in envelope heat transfer.

5.3.10.2 When determining building roof compliance, daylight credits for skylights may be used if the criteria of this subsection are met.

5.3.10.3 Skylights for which daylight credit is taken may be excluded from the calculation of the overall thermal transmittance value (U_{or}) of the roof assembly, if all of the following conditions are met:

5.3.10.3.1 The opaque roof thermal transmittance U_{or} value does not exceed the value determined within the selected Alternate Component Package (ACP) table for the prescriptive method or by Equation 5.5–1 for the systems performance method.

5.3.10.3.2 Skylight areas, including framing, as a percentage of the roof area do not exceed the values specified in Tables 5.3–6A and 5.3–6B for building sites located within the climate ranges listed in the two Tables, where Visible Light Transmittance (VLT) is the transmittance of a particular glazing material over the visible portion of the solar spectrum. Skylight areas shall be interpolated between visible light transmittance values of 0.75 and 0.50, only.

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Table 5.3-6a

(VLT = 0.75)

Maximum Percent Skylight Area for Given Conditions of Lighting Power Density, Light Level (fc), HDD65 and CDH80

BUILDING LOCATION		LIGHT LEVEL IN (fc)	Range of Lighting Power Density (W/ft^2)				
HDD65	CDH80		<1.00	1.01-1.50	1.51-2.00	2.01-2.50	>2.50
0-3000	0-10000	30	2.3	3.1	3.9	4.7	4.7
		50	3.1	4.3	5.5	6.7	6.7
		70	4.3	5.5	6.7	7.9	7.9
0-3000	>10000	30	2.2	2.8	3.4	4.0	4.0
		50	2.3	3.1	3.9	4.7	4.7
		70	2.9	4.1	5.3	6.5	6.5
>3000	ALL	30	2.3	3.4	4.5	5.6	5.6
		50	2.5	4.0	5.5	7.0	7.0
		70	2.8	4.6	6.4	8.2	8.2

Table 5.3-6b
(VLT = 0.50)
Maximum Percent Skylight Area for Given Conditions of Lighting Power Density, Light Level (fc), HDD65 and CDH80

BUILDING LOCATION		LIGHT LEVEL IN FC	Range of Lighting Power Density (W/ft^2)				
HDD65	CDH80		<1.00	1.0-1-1.50	1.51-2.00	2.01-2.50	>2.50
0-3000	0-10000	30	3.6	4.8	6.0	7.2	7.2
		50	4.8	6.6	8.4	10.2	10.2
		70	6.6	8.4	10.2	12.0	12.0
0-3000	>10000	30	3.3	4.2	5.1	6.0	6.0
		50	3.6	4.8	6.0	7.2	7.2
		70	4.2	6.0	7.8	9.6	9.6
>3000	ALL	30	3.6	5.1	6.6	8.1	8.1
		50	3.9	6.0	8.1	10.2	10.2
		70	4.2	6.9	9.6	12.3	12.3

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5.3.10.3.3 The skylight area associated with daylight credit can be taken is the area under each skylight whose dimension in each direction (centered on the skylight) is equal to the skylight dimension in that direction plus a distance equal to the floor to ceiling height.

5.3.10.3.4 Skylight areas that overlap areas that have already taken daylight credit (perimeter window areas or other skylight areas) do not again take daylight credit.

5.3.10.3.5 All electric lighting fixtures within skylight areas are controlled by daylight-activated automatic lighting controls.

5.3.10.3.6 For buildings located in climates that have less than 8000 HDD65, the overall thermal transmittance of the skylight assembly, including framing, is less than or equal to 0.7 Btu/h·ft ^{2}·°F. For locations greater than 8000 HDD65, the overall thermal transmittance of the skylight assembly, including framing, is less than or equal to 0.45 Btu/h·ft ^{2}·°F.

5.3.10.3.7 Skylight curbs have thermal transmittance (U) values no greater than 0.21 Btu/h·ft ^{2}·°F.

5.3.10.3.8 The infiltration coefficient of the skylights does not exceed 0.05 cfm/ft ^{2}.

5.3.10.4 Skylight areas in Tables 5.3–6A and 5.3–6B may be increased by 50% if a shading device is used that blocks over 50% of the solar gain during the peak cooling design condition.

5.3.10.5 Areas for vertical glazing in clerestories and roof monitors shall be included in the wall fenestration calculation.

5.3.10.6 For shell buildings, the permitted skylight area from Tables 5.3–6A and 5.3–6B shall be based on a light level of 30 fc and a lighting power density (LPD) of less than 1 W/ft ^{2}.

5.3.10.7 For speculative buildings, the permitted skylight area from Tables 5.3–6A and 5.3–6B shall be based on the unit lighting power allowance from Table 3.4–1 and an illuminance level as follows:

5.3.10.7.1 For LPD less than or equal to 1.0 W/ft ^{2}, use 30 fc;

5.3.10.7.2 For LPD greater than 1.0 W/ft ^{2} and less than 2.5 W/ft ^{2}, use 50 fc; and

5.3.10.7.3 For LPD greater than 2.5 W/ft ^{2}, use 70 fc.

5.3.10.8 Buildings with roof assembly devices that cannot be evaluated under this subsection shall be evaluated using the Building Energy Compliance Methods of Section 11.0 or 12.0.

5.4 Building Envelope—Prescriptive Compliance Alternative

5.4.1 General.

5.4.1.1 This section provides a simple compliance path using precalculated prescriptive requirements for selected exterior envelope configurations of new buildings.

5.4.1.2 The Alternate Component Packages (ACP), found in this subsection, provide design criteria for use with the following options:

5.4.1.2.1 "Base Case"—buildings with envelopes designed without perimeter daylighting.

5.4.1.2.2 "Perimeter Daylighting"—buildings with envelopes that use additional fenestration area by incorporating automatic lighting controls in the perimeter zone to permit the use of daylighting in lieu of electric lighting. This ACP is not available for those climates that do not usually require space cooling by means of mechanical refrigeration.

(a) This daylighting credit is in addition to the increased lighting power allowance provided in Section 3.5. Some perimeter daylighting options allow a greater proportion of fenestration area due to the increased visible and decreased thermal transmittances of high performance glazings in combination with automatic lighting controls.

5.4.1.3 Each ACP provides a limited number of complying combinations of building variables for a set of climate ranges. The criteria, such as maximum percent fenestration, were calculated using the system performance criteria of Section 5.5. Values were chosen from within climate and other variable ranges for the most restrictive results, to ensure compliance of any combination of values within those ranges. Thus, for most climate locations and envelope parameters, the prescriptive criteria may be slightly more stringent than the system performance criteria of Section 5.5.

5.4.1.4 Both the base and perimeter daylight cases have two or three fenestration U-value ranges depending on the climate.

5.4.2 Compliance.

5.4.2.1 The envelope design of the building being evaluated is in compliance with the prescriptive criteria of this section provided that:

5.4.2.1.1 The minimum requirements of Section 5.3 are met.

5.4.2.1.2 All envelope thermal transmittance (U) values are less than or equal to those chosen from the ACP Table selected for roofs, opaque walls, walls next to unconditioned spaces, and floors over unconditioned spaces.

5.4.2.1.3 The percentage of fenestration of the combined gross wall area is less than or equal to the value permitted for internal load range and glazing in the selected ACP Table.

5.4.2.1.4 Slab-on-grade floors have insulation around the perimeter of the floor with the thermal resistance (R_u) of the insulation as listed in the ACP table. The slab insulation specified shall extend either in a vertical plane downward from the top of the slab for the minimum distance shown or downward to the bottom of the slab then in a horizontal plane beneath the slab or outward from the building for the minimum distance shown. The horizontal length, or vertical depth, of insulation required varies from 24 in. to 48 in. depending upon the R-value selected. For heated slabs, an R of 2 shall be added to the thermal resistance required.

(a) Vertical insulation shall not be required to extend below the foundation footing.

(b) There are no insulation requirements for slabs in locations having less than 3,000 HDD65 or for footings extending less than 18 in. below grade.

5.4.2.1.5 The thermal resistance of the below-grade wall assembly must be greater than or equal to that listed in the ACP table, or the heat loss calculated in accordance with Chapter 25 of the *ASHRAE Handbook, 1985 Fundamentals* shall be less than or equal to that of a wall below grade having a thermal resistance equal to that specified in Figure 5.5–3. No insulation is required for climates with less than 3,000 HDD65 or for those portions of walls more than one story below grade.

5.4.3 Procedure for Using the Alternate Component Packages (ACP).

5.4.3.1 The prescriptive envelope criteria for each of 30 climate ranges are contained in Tables 5.4–2 through 5.4–31.

5.4.3.2 The following steps shall be used to determine compliance with these prescriptive envelope criteria.

5.4.3.2.1 Determine appropriate climate range using either (a) or (b) below.

(a) From Table 5.4–1, select the appropriate ACP Table based on the climate for the building site. The main climate variables that are needed for the proper selection of an ACP Table are cooling degree-days base 65 °F (CDD65), heating degree-days base 50 °F (HDD50), and annual average daily incident of solar radiation on the east or west vertical surface of the facade, Btu/ft^2/day (VSEW). For certain climate ranges this must be augmented by cooling degree-hours base 80 °F (CDH80).

(1) This data, for a specific building location, may be acquired from the U.S. Weather Service of the National

Oceanic and Atmospheric Administration or the local weather bureau. The column designated "ACP Table No." in Table 5.4–1 contains the table number of the appropriate ACP Table.

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Table 5.4-1
Climate Data Grouped by ACP Tables

ACP Table Number	HDD50 Range	CDD65 Range	VSEW Range	CDH80 Range	Example Cities
5.4-2	0	3001-4500	>800		Barbers Point, Hilo, Honolulu, Lihue
5.4-3	0	>4500	>845		Guantanamo Bay, Kwajalein, San Juan, Wake Island
5.4-4	1-1000	0-1150	560-845		Arcata, North Bend
5.4-5	1-1000	0- 300	>845		Oakland, San Francisco, Santa Maria, Sunnyville
5.4-6	1-1000	301-1150	>845		El Toro, Long Beach, Los Angeles, San Diego
5.4-7	1-1000	1151-2000	560-845		Atlanta, Augusta, Birmingham, Cherry Point, Greenville
5.4-8	1-1000	1151-2000	>845		Fresno, Red Bluff, Sacramento
5.4-9	1-1000	2001-3250	560-845		Charleston, Houston, Jackson, Montgomery, New Orleans
5.4-10	1-1000	2001-3250	>845	0-18000	Austin, Bakersfield, El Paso, Fort Worth, Tallahassee, Tampa
5.4-11	1-1000	2001-3250	>845	>18000	China Lake, Las Vegas, Tucson
5.4-12	1-1000	3251-4500	>845	0-18000	Brownsville, Corpus Christi, Miami, Orlando, West Palm Beach
5.4-13	1-1000	3251-4500	>845	>18000	Loredo, Phoenix, Yuma
5.4-14	1001-1750	0- 500	560-845		Olympia, Portland, Salem, Seattle/Tacoma, Whidbey Island
5.4-15	1001-1750	501-1150	560-845		Asheville, Medford
5.4-16	1001-1750	1-1150	>845		Prescott, Winslow, Yucca
5.4-17	1001-1750	1151-2000	560-845		Charlotte, Chattanooga, Knoxville, Norfolk, Raleigh, Richmond
5.4-18	1001-1750	1151-2000	>845		Albuquerque, Lubbock, Oklahoma City, Roswell, Tucumcari
5.4-19	1001-1750	2001-3250	560-845		Fort Smith, Memphis, Tulsa
5.4-20	1751-2600	0-1150	560-845		Baltimore, Boston, Columbus, Harrisburg, New York, Washington
5.4-21	2601-3200	0-1150	560-845		Akron, Chicago, Detroit, Hartford, Indianapolis, Pittsburgh
5.4-22	1751-3200	0-1150	>845		Boise, Colorado Springs, Denver, Reno, Salt Lake City
5.4-23	1751-3200	1151-2000	560-845		Evansville, Lexington, Louisville, Saint Louis, Springfield
5.4-24	1751-3200	1151-2000	>845		Dodge City, Grand Junction
5.4-25	3201-4000	0-1150	560-845		Albany, Buffalo, Concord, Des Moines, Milwaukee, Rapid City
5.4-26	4001-5000	0-1150	560-845		Bangor, Cutbank, Huron, Minneapolis, Rochester, Sioux Falls
5.4-27	3201-4000	0-1150	>845		Casper, Cheyenne, Ely, North Platte, Scottsbluff
5.4-28	4001-5000	0-1150	>845		Bryce, Eagle, Rock Springs
5.4-29	5001-6500	0-1150	560-845		Bismarck, Duluth, Fargo, Glasgow, International Falls
5.4-30	1-6500	< 100	<560		Adak, Anchorage, Juneau, Kodiak, Yakutat
5.4-31	>6500	< 100	<560		Bethel, Fairbanks, King Salmon, Nome, Summit

ALTERNATE COMPONENT PACKAGES FOR:

HUOSB = 0
CDD65 = 3001 - 4500
VSEW = > 800

Barbers Point HI
Hilo HI
Honolulu HI
Lihue HI

TABLE 5.4-2

INTERNAL LOAD DENSITY (ILD) RANGE	PROJECTION FACTOR (PF)	SHADING COEFF RANGE (SCx)	BASE CASE Uof: 1.15 to 0.82	BASE CASE Uof: 0.81 to 0	BASE CASE Uof: N/A	PERIMETER DAYLIGHTING Uof: 1.15 to 0.82	PERIMETER DAYLIGHTING Uof: 0.81 to 0	PERIMETER DAYLIGHTING Uof: 0.81 to 0 (VLT ≥ SC)
0 - 1.50	0.000 - 0.249	1.000 - 0.71	17	16		19	19	20
		0.709 - 0.60	21	20		24	24	24
		0.599 - 0.50	25	24		29	28	29
		0.499 - 0.38	31	30		36	34	35
		0.379 - 0.25	41	40		48	46	47
		0.249 - 0.00	67	62		77	72	74
	0.250 - 0.499	1.000 - 0.71	22	21		26	25	26
		0.709 - 0.60	28	27		32	31	32
		0.599 - 0.50	33	32		39	37	39
		0.499 - 0.38	41	39		48	45	47
		0.379 - 0.00	56	52		65	61	63
	0.500 +	1.000 - 0.71	29	28		34	32	33
		0.709 - 0.60	36	35		42	41	42
		0.599 - 0.50	44	42		51	49	50
		0.499 - 0.00	54	51		63	59	61
1.51 - 3.00	0.000 - 0.249	1.000 - 0.71	14	13		22	21	23
		0.709 - 0.60	17	17		28	27	29
		0.599 - 0.50	21	20		33	32	34
		0.499 - 0.38	25	24		41	39	41
		0.379 - 0.25	34	33		55	52	55
		0.249 - 0.00	56	52		85	77	84
	0.250 - 0.499	1.000 - 0.71	18	18		29	28	30
		0.709 - 0.60	23	22		37	35	38
		0.599 - 0.50	28	27		45	42	45
		0.499 - 0.38	34	32		55	51	54
		0.379 - 0.00	48	43		73	68	72
	0.500 +	1.000 - 0.71	24	23		38	36	39
		0.709 - 0.60	30	29		49	46	49
		0.599 - 0.50	36	34		59	55	58
		0.499 - 0.00	45	42		71	66	70
3.01 - 3.50	0.000 - 0.249	1.000 - 0.71	11	10		20	19	22
		0.709 - 0.60	13	13		25	24	27
		0.599 - 0.50	16	16		30	29	32
		0.499 - 0.38	20	19		37	35	39
		0.379 - 0.25	27	26		51	47	53
		0.249 - 0.00	43	40		78	72	80
	0.250 - 0.499	1.000 - 0.71	14	14		27	26	29
		0.709 - 0.60	18	17		34	32	36
		0.599 - 0.50	22	21		41	39	43
		0.499 - 0.38	26	25		51	47	52
		0.379 - 0.00	36	34		68	63	69
	0.500 +	1.000 - 0.71	18	18		35	33	37
		0.709 - 0.60	23	22		45	42	46
		0.599 - 0.50	28	27		54	50	55
		0.499 - 0.00	35	33		67	61	67

OPAQUE WALL Uow

LIGHT WEIGHT WALL	MASS WALL

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
1.00	HC ≥ 5	17	1.00	1.00
	HC ≥ 10	17	1.00	1.00
	HC ≥ 15	17	1.00	1.00
	HC ≥ 5	77	1.00	1.00
	HC ≥ 10	77	1.00	1.00
	HC ≥ 15	77	1.00	1.00

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
1.00	HC ≥ 5	14	1.00	1.00
	HC ≥ 10	14	1.00	1.00
	HC ≥ 15	14	1.00	1.00
	HC ≥ 5	85	1.00	1.00
	HC ≥ 10	85	1.00	1.00
	HC ≥ 15	85	1.00	1.00

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
1.00	HC ≥ 5	11	1.00	1.00
	HC ≥ 10	11	1.00	1.00
	HC ≥ 15	11	1.00	1.00
	HC ≥ 5	80	1.00	1.00
	HC ≥ 10	80	1.00	1.00
	HC ≥ 15	80	1.00	1.00

Daylight Sensing Controls

	Min R-Value		
WALL BELOW GRADE:	0		
UNHEATED SLAB ON GRADE:	24"	36"	48"
Horizontal	0	0	0
Vertical	0	0	0

	Max Uo
ROOF:	0.084
WALL ADJACENT TO UNCOND SPACE:	1.00
FLOOR OVER UNCOND SPACE:	1.19

ALTERNATE COMPONENT PACKAGES FOR:

HDD50 = 0
CDD65 = > 4500
VSEW = > 845

Guantanamo Bay CU
Kwajalein Island
Koror Island
San Juan PR
Wake Island

TABLE 5.4-3

Uof

INTERNAL LOAD DENSITY (ILD) RANGE	PROJECTION FACTOR (PF)	SHADING COEFF RANGE (SCx)	BASE CASE 1.15 to 0.82	BASE CASE 0.81 to 0	BASE CASE N/A	PERIMETER DAYLIGHTING 1.15 to 0.82	PERIMETER DAYLIGHTING 0.81 to 0	PERIMETER DAYLIGHTING 0.81 to 0 (VLT ≥ SC)
0 - 1.50	0.000 - 0.249	1.000 - 0.71	14	14		17	16	17
		0.709 - 0.60	19	18		21	21	22
		0.599 - 0.50	23	22		26	26	26
		0.499 - 0.38	29	28		33	32	33
		0.379 - 0.25	42	39		49	46	47
		0.249 - 0.00	81	72		98	82	85
	0.250 - 0.499	1.000 - 0.71	20	19		23	22	23
		0.709 - 0.60	26	25		30	29	30
		0.599 - 0.50	32	31		37	35	37
		0.499 - 0.38	41	39		48	45	46
		0.379 - 0.00	62	58		73	66	68
	0.500 +	1.000 - 0.71	27	26		31	30	31
		0.709 - 0.60	35	34		41	39	40
		0.599 - 0.50	45	42		53	49	50
		0.499 - 0.00	59	54		70	63	65
1.51 - 3.00	0.000 - 0.249	1.000 - 0.71	12	12		19	19	21
		0.709 - 0.60	16	15		25	24	26
		0.599 - 0.50	19	19		31	30	32
		0.499 - 0.38	24	23		40	38	40
		0.379 - 0.25	35	33		60	54	58
		0.249 - 0.00	66	66		100	93	100
	0.250 - 0.499	1.000 - 0.71	16	16		27	26	28
		0.709 - 0.60	22	21		36	34	36
		0.599 - 0.50	27	26		45	42	45
		0.499 - 0.38	34	32		59	53	57
		0.379 - 0.00	51	47		87	77	82
	0.500 +	1.000 - 0.71	22	22		37	35	38
		0.709 - 0.60	29	28		50	46	49
		0.599 - 0.50	37	35		65	58	61
		0.499 - 0.00	48	45		83	74	78
3.01 - 3.50	0.000 - 0.249	1.000 - 0.71	9	9		17	17	19
		0.709 - 0.60	12	12		23	22	25
		0.599 - 0.50	15	14		28	27	31
		0.499 - 0.38	18	18		36	34	38
		0.379 - 0.25	26	25		55	50	55
		0.249 - 0.00	49	46		100	86	96
	0.250 - 0.499	1.000 - 0.71	13	12		24	23	27
		0.709 - 0.60	18	16		32	31	34
		0.599 - 0.50	20	20		41	38	43
		0.499 - 0.38	26	25		54	49	54
		0.379 - 0.00	38	36		80	71	78
	0.500 +	1.000 - 0.71	17	17		34	32	36
		0.709 - 0.60	22	22		46	42	47
		0.599 - 0.50	28	27		60	54	59
		0.499 - 0.00	36	34		77	69	75

OPAQUE WALL Uow

LIGHT WEIGHT WALL	MASS WALL

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
1.00	HC ≥ 5	14	1.00	1.00
	HC ≥ 10	14	1.00	1.00
	HC ≥ 15	14	1.00	1.00
	HC ≥ 5	85	1.00	1.00
	HC ≥ 10	85	1.00	1.00
	HC ≥ 15	85	1.00	1.00

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
1.00	HC ≥ 5	12	1.00	1.00
	HC ≥ 10	12	1.00	1.00
	HC ≥ 15	12	1.00	1.00
	HC ≥ 5	93	1.00	1.00
	HC ≥ 10	93	1.00	1.00
	HC ≥ 15	93	1.00	1.00

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
1.00	HC ≥ 5	9	1.00	1.00
	HC ≥ 10	9	1.00	1.00
	HC ≥ 15	9	1.00	1.00
	HC ≥ 5	86	1.00	1.00
	HC ≥ 10	86	1.00	1.00
	HC ≥ 15	86	1.00	1.00

Daylight Sensing Controls

	Min R-Value		
WALL BELOW GRADE:	0		
UNHEATED SLAB ON GRADE:	24"	36"	48"
Horizontal	0	0	0
Vertical	0	0	0

	Max Uo
ROOF:	0.057
WALL ADJACENT TO UNCOND SPACE:	1.00
FLOOR OVER UNCOND SPACE:	1.19

ALTERNATE COMPONENT PACKAGES FOR:

Arcata CA
North Bend OR

TABLE 5.4-4

HDD50 = 1 - 1000
CDD65 = 0 - 1150
VSEW = 550 - 845

INTERNAL LOAD DENSITY (ILD) RANGE	PROJECTION FACTOR (PF)	SHADING COEFF RANGE (SCx)	BASE CASE Uof: 0.81 to 0.46	0.45 to 0.39	0.38 to 0	PERIMETER DAYLIGHTING: N/A	VLT ≥ SC
0 - 1.50	0.000 - 0.249	1.000 - 0.71	24	32	33		
		0.709 - 0.60	26	37	39		
		0.599 - 0.50	28	41	45		
		0.499 - 0.38	29	46	51		
		0.379 - 0.25	30	52	59		
		0.249 - 0.00	31	59	70		
	0.250 - 0.499	1.000 - 0.71	27	39	42		
		0.709 - 0.60	29	45	49		
		0.599 - 0.50	30	49	55		
		0.499 - 0.38	30	53	61		
		0.379 - 0.00	31	58	68		
	0.500 +	1.000 - 0.71	30	47	52		
		0.709 - 0.60	31	53	59		
		0.599 - 0.50	31	56	64		
		0.499 - 0.00	31	59	69		
1.51 - 3.00	0.000 - 0.249	1.000 - 0.71	22	27	28		
		0.709 - 0.60	25	33	34		
		0.599 - 0.50	27	37	39		
		0.499 - 0.38	30	42	45		
		0.379 - 0.25	32	50	55		
		0.249 - 0.00	35	60	69		
	0.250 - 0.499	1.000 - 0.71	27	35	36		
		0.709 - 0.60	29	41	43		
		0.599 - 0.50	31	46	49		
		0.499 - 0.38	33	51	56		
		0.379 - 0.00	35	58	65		
	0.500 +	1.000 - 0.71	30	43	45		
		0.709 - 0.60	32	49	53		
		0.599 - 0.50	34	53	59		
		0.499 - 0.00	35	58	66		
3.01 - 3.50	0.000 - 0.249	1.000 - 0.71	21	25	26		
		0.709 - 0.60	24	31	32		
		0.599 - 0.50	27	35	37		
		0.499 - 0.38	29	40	43		
		0.379 - 0.25	32	48	52		
		0.249 - 0.00	36	59	67		
	0.250 - 0.499	1.000 - 0.71	26	33	34		
		0.709 - 0.60	28	38	41		
		0.599 - 0.50	31	43	46		
		0.499 - 0.38	32	49	53		
		0.379 - 0.00	35	56	63		
	0.500 +	1.000 - 0.71	29	40	42		
		0.709 - 0.60	32	46	50		
		0.599 - 0.50	33	51	56		
		0.499 - 0.00	35	56	63		

Daylight Sensing Controls

OPAQUE WALL Uow: LIGHT WEIGHT WALL / MASS WALL

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.099	HC ≥ 5	24	0.10	0.11
	HC ≥ 10	24	0.12	0.13
	HC ≥ 15	24	0.13	0.14
	HC ≥ 5	70	0.10	0.11
	HC ≥ 10	70	0.11	0.13
	HC ≥ 15	70	0.13	0.14

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.099	HC ≥ 5	22	0.10	0.12
	HC ≥ 10	22	0.13	0.16
	HC ≥ 15	22	0.16	0.19
	HC ≥ 5	69	0.10	0.12
	HC ≥ 10	69	0.12	0.16
	HC ≥ 15	69	0.15	0.18

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.099	HC ≥ 5	21	0.10	0.12
	HC ≥ 10	21	0.14	0.18
	HC ≥ 15	21	0.18	0.21
	HC ≥ 5	67	0.10	0.12
	HC ≥ 10	67	0.13	0.17
	HC ≥ 15	67	0.16	0.19

	Min R-Value		
WALL BELOW GRADE:	8		
UNHEATED SLAB ON GRADE:	24"	36"	48"
Horizontal	15	13	10
Vertical	7	6	4

	Max Uo
ROOF:	0.070
WALL ADJACENT TO UNCOND SPACE:	0.15
FLOOR OVER UNCOND SPACE:	0.062

ALTERNATE COMPONENT PACKAGES FOR:

HDD50 = 1 - 1000
CDD65 = 0 - 300
VSEW = > 845

Oakland CA
Point Magu CA
San Francisco CA
Santa Maria CA
Sunnyville CA

TABLE 5.4-5

INTERNAL LOAD DENSITY (ILD) RANGE	PROJECTION FACTOR (PF)	SHADING COEFF RANGE (SCx)	BASE CASE Uof: 1.15 to 0.82	BASE CASE Uof: 0.81 to 0	BASE CASE Uof: N/A	PERIMETER DAYLIGHTING Uof: 1.15 to 0.82	PERIMETER DAYLIGHTING Uof: 0.81 to 0	PERIMETER DAYLIGHTING Uof: 0.45 to 0
								VLT ≥ SC
0 - 1.50	0.000 - 0.249	1.000 - 0.71	24	26		26	28	29
		0.709 - 0.60	29	31		32	34	36
		0.599 - 0.50	34	36		36	39	43
		0.499 - 0.38	39	43		41	48	51
		0.379 - 0.25	47	54		49	57	66
		0.249 - 0.00	60	72		61	75	96
	0.250 - 0.499	1.000 - 0.71	31	33		33	36	39
		0.709 - 0.60	37	40		39	43	48
		0.599 - 0.50	42	45		44	50	56
		0.499 - 0.38	47	54		50	57	67
		0.379 - 0.00	58	66		58	69	85
	0.500 +	1.000 - 0.71	38	42		41	45	50
		0.709 - 0.60	45	50		47	54	61
		0.599 - 0.50	50	57		52	61	71
		0.499 - 0.00	55	65		57	69	84
1.51 - 3.00	0.000 - 0.249	1.000 - 0.71	19	20		26	27	28
		0.709 - 0.60	24	25		31	33	35
		0.599 - 0.50	28	29		35	38	41
		0.499 - 0.38	32	34		40	45	49
		0.379 - 0.25	40	44		49	56	64
		0.249 - 0.00	54	62		61	74	93
	0.250 - 0.499	1.000 - 0.71	25	26		32	35	37
		0.709 - 0.60	31	32		38	42	48
		0.599 - 0.50	35	38		43	48	54
		0.499 - 0.38	41	44		49	56	65
		0.379 - 0.00	49	58		57	68	83
	0.500 +	1.000 - 0.71	32	33		40	44	48
		0.709 - 0.60	38	41		46	52	59
		0.599 - 0.50	43	47		51	59	70
		0.499 - 0.00	49	55		57	67	82
3.01 - 3.50	0.000 - 0.249	1.000 - 0.71	17	17		25	26	27
		0.709 - 0.60	21	21		30	32	34
		0.599 - 0.50	24	25		34	37	40
		0.499 - 0.38	29	30		39	43	48
		0.379 - 0.25	38	39		47	54	63
		0.249 - 0.00	49	56		60	72	90
	0.250 - 0.499	1.000 - 0.71	22	23		31	34	38
		0.709 - 0.60	27	28		37	41	45
		0.599 - 0.50	31	33		42	47	53
		0.499 - 0.38	36	39		47	54	63
		0.379 - 0.00	45	50		56	66	81
	0.500 +	1.000 - 0.71	28	29		38	42	47
		0.709 - 0.60	34	36		45	50	58
		0.599 - 0.50	38	42		50	57	68
		0.499 - 0.00	44	49		55	65	79

OPAQUE WALL Uow

LIGHT WEIGHT WALL	MASS WALL

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.15	HC ≥ 5	24	0.21	0.37
	HC ≥ 10	24	0.36	0.58
	HC ≥ 15	24	0.47	0.58
	HC ≥ 5	85	0.21	0.37
	HC ≥ 10	85	0.35	0.49
	HC ≥ 15	85	0.45	0.56

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.15	HC ≥ 5	19	0.28	0.49
	HC ≥ 10	19	0.48	0.72
	HC ≥ 15	19	0.67	0.88
	HC ≥ 5	93	0.20	0.38
	HC ≥ 10	93	0.36	0.53
	HC ≥ 15	93	0.49	0.61

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.15	HC ≥ 5	17	0.32	0.53
	HC ≥ 10	17	0.53	0.88
	HC ≥ 15	17	0.74	0.88
	HC ≥ 5	90	0.22	0.39
	HC ≥ 10	90	0.39	0.58
	HC ≥ 15	90	0.52	0.65

Daylight Sensing Controls

	Min R-Value		
WALL BELOW GRADE:	7		
UNHEATED SLAB ON GRADE:	24"	36"	48"
Horizontal	11	9	7
Vertical	6	5	4

	Max Uo
ROOF:	0.089
WALL ADJACENT TO UNCOND SPACE:	0.21
FLOOR OVER UNCOND SPACE:	0.094

ALTERNATE COMPONENT PACKAGES FOR:

HDD65 = 1 - 1000
CDD65 = 301 - 1150
VSEW = > 845

El Toro CA
Long Beach CA
Los Angeles CA
San Diego CA

TABLE 5.4-6

Uof

INTERNAL LOAD DENSITY (ILD) RANGE	PROJECTION FACTOR (PF)	SHADING COEFF RANGE (SCx)	BASE CASE 1.15 to 0.82	BASE CASE 0.81 to 0	BASE CASE N/A	PERIMETER DAYLIGHTING 1.15 to 0.82	PERIMETER DAYLIGHTING 0.81 to 0	PERIMETER DAYLIGHTING 0.81 to 0 (VLT ≥ SC)
0 - 1.50	0.000 - 0.249	1.000 - 0.71	18	18		21	21	21
		0.709 - 0.60	23	23		26	26	26
		0.599 - 0.50	27	27		30	31	31
		0.499 - 0.38	33	33		36	37	38
		0.379 - 0.25	43	44		47	49	50
		0.249 - 0.00	64	67		70	73	75
	0.250 - 0.499	1.000 - 0.71	24	24		27	27	28
		0.709 - 0.60	30	30		34	34	35
		0.599 - 0.50	36	36		40	40	41
		0.499 - 0.38	43	43		47	49	50
		0.379 - 0.00	56	57		61	64	65
	0.500 +	1.000 - 0.71	31	32		35	35	36
		0.709 - 0.60	39	39		43	44	45
		0.599 - 0.50	48	47		51	52	53
		0.499 - 0.00	55	56		60	62	64
1.51 - 3.00	0.000 - 0.249	1.000 - 0.71	14	14		21	21	22
		0.709 - 0.60	18	18		26	26	27
		0.599 - 0.50	21	21		31	31	33
		0.499 - 0.38	26	26		37	37	39
		0.379 - 0.25	35	34		49	49	52
		0.249 - 0.00	54	54		72	74	78
	0.250 - 0.499	1.000 - 0.71	19	19		27	27	29
		0.709 - 0.60	24	24		34	34	36
		0.599 - 0.50	28	28		41	41	43
		0.499 - 0.38	34	34		49	49	52
		0.379 - 0.00	46	46		64	65	69
	0.500 +	1.000 - 0.71	25	25		36	36	38
		0.709 - 0.60	31	31		44	44	47
		0.599 - 0.50	37	37		52	53	56
		0.499 - 0.00	45	44		63	64	67
3.01 - 3.50	0.000 - 0.249	1.000 - 0.71	12	12		19	19	21
		0.709 - 0.60	15	15		24	24	26
		0.599 - 0.50	18	17		29	29	31
		0.499 - 0.38	21	21		35	35	38
		0.379 - 0.25	29	28		46	46	50
		0.249 - 0.00	45	44		69	70	75
	0.250 - 0.499	1.000 - 0.71	16	15		26	25	28
		0.709 - 0.60	20	19		32	32	35
		0.599 - 0.50	23	23		38	38	42
		0.499 - 0.38	28	28		46	46	50
		0.379 - 0.00	38	38		60	61	66
	0.500 +	1.000 - 0.71	20	20		33	33	36
		0.709 - 0.60	26	25		41	42	45
		0.599 - 0.50	30	30		49	49	54
		0.499 - 0.00	37	37		59	60	65

OPAQUE WALL Uow

LIGHT WEIGHT WALL	MASS WALL

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.23	HC ≥ 5	18	0.50	0.00
	HC ≥ 10	18	0.00	0.00
	HC ≥ 15	18	0.00	0.00
	HC ≥ 5	75	0.45	0.00
	HC ≥ 10	75	0.00	0.00
	HC ≥ 15	75	0.00	0.00

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.23	HC ≥ 5	14	0.00	0.00
	HC ≥ 10	14	0.00	0.00
	HC ≥ 15	14	0.00	0.00
	HC ≥ 5	78	0.66	0.00
	HC ≥ 10	78	0.00	0.00
	HC ≥ 15	78	0.00	0.00

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.23	HC ≥ 5	12	0.60	0.00
	HC ≥ 10	12	0.00	0.00
	HC ≥ 15	12	0.00	0.00
	HC ≥ 5	75	0.72	0.00
	HC ≥ 10	75	0.00	0.00
	HC ≥ 15	75	0.00	0.00

Daylight Sensing Controls

	Min R-Value		
WALL BELOW GRADE:	0		
UNHEATED SLAB ON GRADE:	24"	36"	48"
Horizontal	0	0	0
Vertical	0	0	0

	Max Uo
ROOF:	0.10
WALL ADJACENT TO UNCOND SPACE:	0.38
FLOOR OVER UNCOND SPACE:	0.18

ALTERNATE COMPONENT PACKAGES FOR:

HDD50 = 1 - 1000
CDD65 = 1151 - 2000
VSEW = 568 - 845

Atlanta GA
Birmingham AL
Cape Hatteras NC
Cherry Point NC
Greenville SC

TABLE 5.4-7

INTERNAL LOAD DENSITY (ILD) RANGE	PROJECTION FACTOR (PF)	SHADING COEFF RANGE (SCx)	BASE CASE Uof: 1.15 to 0.82	BASE CASE Uof: 0.81 to 0	BASE CASE Uof: N/A	PERIMETER DAYLIGHTING Uof: 1.15 to 0.82	PERIMETER DAYLIGHTING Uof: 0.81 to 0	PERIMETER DAYLIGHTING Uof: 0.81 to 0 VLT ≥ SC
0 - 1.50	0.000 - 0.249	1.000 - 0.71	19	20		21	22	23
		0.709 - 0.60	24	25		26	27	28
		0.599 - 0.50	28	29		30	32	33
		0.499 - 0.38	32	35		35	38	39
		0.379 - 0.25	41	45		44	49	50
		0.249 - 0.00	56	64		59	69	70
	0.250 - 0.499	1.000 - 0.71	25	28		28	29	30
		0.709 - 0.60	30	32		33	36	36
		0.599 - 0.50	35	38		38	42	42
		0.499 - 0.38	41	45		44	49	50
		0.379 - 0.00	50	57		54	61	63
	0.500 +	1.000 - 0.71	31	33		34	37	38
		0.709 - 0.60	38	41		41	45	46
		0.599 - 0.50	43	47		47	52	53
		0.499 - 0.00	49	56		53	60	62
1.51 - 3.00	0.000 - 0.249	1.000 - 0.71	15	15		21	21	23
		0.709 - 0.60	19	19		25	27	28
		0.599 - 0.50	22	22		30	31	33
		0.499 - 0.38	26	27		35	37	39
		0.379 - 0.25	33	35		43	48	51
		0.249 - 0.00	47	52		59	68	71
	0.250 - 0.499	1.000 - 0.71	20	20		27	28	30
		0.709 - 0.60	24	25		33	35	37
		0.599 - 0.50	28	29		38	40	43
		0.499 - 0.38	33	35		43	48	50
		0.379 - 0.00	42	45		53	61	64
	0.500 +	1.000 - 0.71	25	26		34	36	38
		0.709 - 0.60	30	32		40	44	46
		0.599 - 0.50	35	37		46	51	54
		0.499 - 0.00	41	44		52	59	63
3.01 - 3.50	0.000 - 0.249	1.000 - 0.71	13	13		20	20	22
		0.709 - 0.60	16	16		24	25	27
		0.599 - 0.50	18	19		28	29	32
		0.499 - 0.38	22	23		33	35	38
		0.379 - 0.25	28	30		41	45	49
		0.249 - 0.00	41	45		55	64	69
	0.250 - 0.499	1.000 - 0.71	16	17		25	27	29
		0.709 - 0.60	20	21		31	33	35
		0.599 - 0.50	24	25		35	38	41
		0.499 - 0.38	28	30		41	45	49
		0.379 - 0.00	36	39		50	57	62
	0.500 +	1.000 - 0.71	21	22		32	34	36
		0.709 - 0.60	26	27		38	41	45
		0.599 - 0.50	30	32		43	48	52
		0.499 - 0.00	35	38		49	56	61

OPAQUE WALL Uow

Uow (HC(5))	HC RANGE	PCT FEN	INT INS	EXT INS
0.16	HC ≥ 5	19	0.21	0.38
	HC ≥ 10	19	0.31	0.39
	HC ≥ 15	19	0.40	0.42
	HC ≥ 5	70	0.26	0.27
	HC ≥ 10	70	0.27	0.36
	HC ≥ 15	70	0.35	0.39

Uow (HC(5))	HC RANGE	PCT FEN	INT INS	EXT INS
0.16	HC ≥ 5	15	0.22	0.34
	HC ≥ 10	15	0.36	0.43
	HC ≥ 15	15	0.45	0.47
	HC ≥ 5	71	0.26	0.29
	HC ≥ 10	71	0.29	0.38
	HC ≥ 15	71	0.39	0.40

Uow (HC(5))	HC RANGE	PCT FEN	INT INS	EXT INS
0.16	HC ≥ 5	13	0.22	0.34
	HC ≥ 10	13	0.36	0.43
	HC ≥ 15	13	0.46	0.48
	HC ≥ 5	69	0.26	0.29
	HC ≥ 10	69	0.36	0.39
	HC ≥ 15	69	0.46	0.41

Daylight Sensing Controls

	Min R-Value		
WALL BELOW GRADE:	7		
UNHEATED SLAB ON GRADE:	24'	36'	48'
Horizontal	11	9	7
Vertical	6	5	4

	Max Uo
ROOF:	0.060
WALL ADJACENT TO UNCOND SPACE:	0.21
FLOOR OVER UNCOND SPACE:	0.095

ALTERNATE COMPONENT PACKAGES FOR:

HDD65 = 1 - 1000
CDD65 = 1151 - 2000
VSEW = > 845

Fresno CA
Redbluff CA
Sacramento CA

TABLE 5.4-8

Uof

BASE CASE		
1.15 to 0.82	0.81 to 0	N/A

PERIMETER DAYLIGHTING		
1.15 to 0.82	0.81 to 0	0.81 to 0

VLT ≥ SC

OPAQUE WALL Uow	
LIGHT WEIGHT WALL	MASS WALL

INTERNAL LOAD DENSITY (ILD) RANGE	PROJECTION FACTOR (PF)	SHADING COEFF RANGE (SCx)	BASE CASE		PERIMETER DAYLIGHTING		
0 - 1.50	0.000 - 0.249	1.000 - 0.71	19	20	21	22	22
		0.709 - 0.60	24	25	26	27	28
		0.599 - 0.50	28	29	30	32	33
		0.499 - 0.38	33	35	35	38	39
		0.379 - 0.25	41	45	44	49	50
		0.249 - 0.00	56	65	59	69	70
	0.250 - 0.499	1.000 - 0.71	25	26	27	29	29
		0.709 - 0.60	31	33	33	36	36
		0.599 - 0.50	35	38	38	42	42
		0.499 - 0.38	41	45	44	49	50
		0.379 - 0.00	51	58	53	62	63
	0.500 +	1.000 - 0.71	32	34	34	37	38
		0.709 - 0.60	38	42	41	45	46
		0.599 - 0.50	44	48	47	52	53
		0.499 - 0.00	56	57	53	61	62
1.51 - 3.00	0.000 - 0.249	1.000 - 0.71	15	15	20	21	22
		0.709 - 0.60	18	19	25	26	27
		0.599 - 0.50	22	23	29	30	32
		0.499 - 0.38	26	27	34	36	38
		0.379 - 0.25	33	35	42	47	49
		0.249 - 0.00	47	53	58	67	70
	0.250 - 0.499	1.000 - 0.71	20	20	26	28	29
		0.709 - 0.60	24	25	32	34	36
		0.599 - 0.50	28	30	37	40	42
		0.499 - 0.38	33	35	43	47	50
		0.379 - 0.00	42	46	52	60	63
	0.500 +	1.000 - 0.71	25	26	33	35	37
		0.709 - 0.60	31	32	40	43	45
		0.599 - 0.50	35	38	45	50	53
		0.499 - 0.00	41	45	52	59	62
3.01 - 3.50	0.000 - 0.249	1.000 - 0.71	13	13	19	20	21
		0.709 - 0.60	16	16	23	24	26
		0.599 - 0.50	19	19	27	29	31
		0.499 - 0.38	22	23	32	34	37
		0.379 - 0.25	29	31	40	44	48
		0.249 - 0.00	42	46	55	64	68
	0.250 - 0.499	1.000 - 0.71	17	17	25	26	28
		0.709 - 0.60	21	21	30	32	35
		0.599 - 0.50	24	25	35	38	40
		0.499 - 0.38	29	30	40	44	48
		0.379 - 0.00	37	40	50	57	61
	0.500 +	1.000 - 0.71	22	22	31	33	36
		0.709 - 0.60	26	28	37	41	44
		0.599 - 0.50	31	33	43	48	51
		0.499 - 0.00	38	39	49	56	60

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.15	HC ≥ 5	19	0.28	0.33
	HC ≥ 10	19	0.34	0.44
	HC ≥ 15	19	0.44	0.49
	HC ≥ 5	70	0.19	0.30
	HC ≥ 10	70	0.29	0.40
	HC ≥ 15	70	0.40	0.44

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.15	HC ≥ 5	15	0.21	0.38
	HC ≥ 10	15	0.37	0.48
	HC ≥ 15	15	0.48	0.53
	HC ≥ 5	70	0.28	0.32
	HC ≥ 10	70	0.32	0.42
	HC ≥ 15	70	0.43	0.47

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.15	HC ≥ 5	13	0.21	0.37
	HC ≥ 10	13	0.38	0.48
	HC ≥ 15	13	0.49	0.54
	HC ≥ 5	68	0.28	0.32
	HC ≥ 10	68	0.32	0.43
	HC ≥ 15	68	0.43	0.48

Daylight Sensing Controls

	Min R-Value		
WALL BELOW GRADE:	0		
UNHEATED SLAB ON GRADE:	24"	36"	48"
Horizontal	0	0	0
Vertical	0	0	0

	Max Uo
ROOF:	0.060
WALL ADJACENT TO UNCOND SPACE:	0.23
FLOOR OVER UNCOND SPACE:	0.16

ALTERNATE COMPONENT PACKAGES FOR:

HDD50 = 1 - 1000
CDD65 = 2000 - 3250
VSEW = 560 - 845

Baton Rouge LA
Charleston SC
Columbia SC
Houston TX
Jackson MS

Lake Charles LA
Little Rock AR
Macon GA
Meridian MS
Mobile AL

Montgomery AL
New Orleans LA
Port Angeles TX
Savannah GA
Shreveport LA

TABLE 5.4-9

INTERNAL LOAD DENSITY (ILD) RANGE	PROJECTION FACTOR (PF)	SHADING COEFF RANGE (SCx)	BASE CASE Uof: 1.15 to 0.82	BASE CASE Uof: 0.81 to 0	BASE CASE Uof: N/A	PERIMETER DAYLIGHTING Uof: 1.15 to 0.82	PERIMETER DAYLIGHTING Uof: 0.81 to 0	PERIMETER DAYLIGHTING Uof: 0.81 to 0 VLT ≥ SC
0 - 1.50	0.000 - 0.249	1.000 - 0.71	19	19		21	22	22
		0.709 - 0.60	23	24		26	27	27
		0.599 - 0.50	27	28		30	32	32
		0.499 - 0.38	32	34		36	38	38
		0.379 - 0.25	41	44		45	49	50
		0.249 - 0.00	59	66		63	72	73
	0.250 - 0.499	1.000 - 0.71	24	25		27	28	29
		0.709 - 0.60	30	31		33	35	36
		0.599 - 0.50	35	37		39	41	42
		0.499 - 0.38	41	44		45	49	50
		0.379 - 0.00	52	57		57	63	64
	0.500 +	1.000 - 0.71	31	32		34	36	37
		0.709 - 0.60	38	40		42	45	46
		0.599 - 0.50	44	47		48	52	53
		0.499 - 0.00	51	56		56	62	63
1.51 - 3.00	0.000 - 0.249	1.000 - 0.71	15	15		21	21	23
		0.709 - 0.60	18	18		26	27	28
		0.599 - 0.50	22	22		30	31	33
		0.499 - 0.38	28	27		36	38	40
		0.379 - 0.25	34	35		46	49	52
		0.249 - 0.00	49	53		65	72	76
	0.250 - 0.499	1.000 - 0.71	19	20		27	28	30
		0.709 - 0.60	24	24		33	35	37
		0.599 - 0.50	28	29		39	41	44
		0.499 - 0.38	33	35		46	49	52
		0.379 - 0.00	43	46		58	64	67
	0.500 +	1.000 - 0.71	25	25		35	36	38
		0.709 - 0.60	30	31		42	45	47
		0.599 - 0.50	35	37		49	53	56
		0.499 - 0.00	42	45		57	62	66
3.01 - 3.50	0.000 - 0.249	1.000 - 0.71	12	12		19	20	22
		0.709 - 0.60	15	15		24	25	27
		0.599 - 0.50	18	18		28	29	32
		0.499 - 0.38	22	22		33	35	38
		0.379 - 0.25	28	29		43	46	50
		0.249 - 0.00	42	45		61	68	73
	0.250 - 0.499	1.000 - 0.71	16	16		26	26	29
		0.709 - 0.60	20	20		31	33	36
		0.599 - 0.50	23	24		36	39	42
		0.499 - 0.38	28	29		43	46	50
		0.379 - 0.00	36	38		54	60	65
	0.500 +	1.000 - 0.71	21	21		32	34	37
		0.709 - 0.60	25	26		39	42	45
		0.599 - 0.50	30	31		46	49	53
		0.499 - 0.00	35	37		53	59	64

OPAQUE WALL Uow

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.18	HC ≥ 5	19	0.23	0.35
	HC ≥ 10	19	0.35	0.43
	HC ≥ 15	19	0.45	0.47
	HC ≥ 5	73	0.22	0.32
	HC ≥ 10	73	0.33	0.40
	HC ≥ 15	73	0.42	0.44

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.18	HC ≥ 5	15	0.24	0.37
	HC ≥ 10	15	0.39	0.47
	HC ≥ 15	15	0.49	0.52
	HC ≥ 5	76	0.24	0.36
	HC ≥ 10	76	0.36	0.44
	HC ≥ 15	76	0.46	0.48

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.18	HC ≥ 5	12	0.24	0.37
	HC ≥ 10	12	0.39	0.47
	HC ≥ 15	12	0.49	0.53
	HC ≥ 5	73	0.23	0.35
	HC ≥ 10	73	0.36	0.43
	HC ≥ 15	73	0.45	0.48

Daylight Sensing Controls

	Min R-Value		
WALL BELOW GRADE:	7		
UNHEATED SLAB ON GRADE:	24"	36"	48"
Horizontal	10	9	7
Vertical	6	5	4

	Max Uo
ROOF:	0.064
WALL ADJACENT TO UNCOND SPACE:	0.22
FLOOR OVER UNCOND SPACE:	0.098

ALTERNATE COMPONENT PACKAGES FOR:

HDD65 = 1 - 1000
CDD65 = 2001 - 3250
VSEW = > 845

Abilene TX
Apalachicola FL
Austin TX
Bakersfield CA
Daytona Beach FL
Del Rio TX
El Paso TX
Fort Worth TX
Jacksonsville FL
San Antonio TX
Sherman TX
Tallahassee FL
Tampa FL
Waco TX
Wichita Falls TX

TABLE 5.4-18

Uof

BASE CASE		
1.15 to 0.82	0.81 to 0	N/A

PERIMETER DAYLIGHTING		
1.15 to 0.82	0.81 to 0	0.81 to 0

VLT ≥ SC

OPAQUE WALL Uow	
LIGHT WEIGHT WALL	MASS WALL

INTERNAL LOAD DENSITY (ILD) RANGE	PROJECTION FACTOR (PF)	SHADING COEFF RANGE (SCx)	BASE CASE		PERIMETER DAYLIGHTING		
0 - 1.50	0.000 - 0.249	1.000 - 0.71	19	19	21	21	22
		0.709 - 0.60	23	24	25	27	27
		0.599 - 0.50	27	28	29	31	32
		0.499 - 0.38	32	34	34	37	38
		0.379 - 0.25	40	44	43	48	49
		0.249 - 0.00	55	64	59	69	70
	0.250 - 0.499	1.000 - 0.71	24	26	27	28	29
		0.709 - 0.60	30	32	32	35	35
		0.599 - 0.50	34	37	37	41	41
		0.499 - 0.38	40	44	43	48	49
		0.379 - 0.00	50	56	53	61	62
	0.500 +	1.000 - 0.71	31	33	34	36	37
		0.709 - 0.60	37	40	40	44	45
		0.599 - 0.50	42	47	46	51	52
		0.499 - 0.00	49	55	52	60	61
1.51 - 3.00	0.000 - 0.249	1.000 - 0.71	15	15	20	21	22
		0.709 - 0.60	18	19	25	26	27
		0.599 - 0.50	21	22	29	31	32
		0.499 - 0.38	25	27	34	37	39
		0.379 - 0.25	33	35	43	48	50
		0.249 - 0.00	47	53	59	68	72
	0.250 - 0.499	1.000 - 0.71	19	20	26	28	29
		0.709 - 0.60	24	25	32	34	36
		0.599 - 0.50	28	29	37	40	42
		0.499 - 0.38	33	35	43	48	50
		0.379 - 0.00	41	46	53	61	64
	0.500 +	1.000 - 0.71	24	26	33	35	37
		0.709 - 0.60	30	32	40	43	46
		0.599 - 0.50	35	37	46	51	53
		0.499 - 0.00	41	44	52	60	63
3.01 - 3.50	0.000 - 0.249	1.000 - 0.71	12	13	19	20	21
		0.709 - 0.60	15	16	23	24	26
		0.599 - 0.50	18	19	27	29	31
		0.499 - 0.38	22	23	32	34	37
		0.379 - 0.25	28	30	40	45	48
		0.249 - 0.00	41	45	56	65	70
	0.250 - 0.499	1.000 - 0.71	16	17	25	26	28
		0.709 - 0.60	20	21	30	32	35
		0.599 - 0.50	24	25	35	38	41
		0.499 - 0.38	28	30	40	45	48
		0.379 - 0.00	36	39	50	57	62
	0.500 +	1.000 - 0.71	21	22	31	33	36
		0.709 - 0.60	26	27	37	41	44
		0.599 - 0.50	30	32	43	48	52
		0.499 - 0.00	35	38	49	58	61

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.15	HC ≥ 5	19	0.17	0.25
	HC ≥ 10	19	0.22	0.32
	HC ≥ 15	19	0.29	0.35
	HC ≥ 5	70	0.17	0.23
	HC ≥ 10	70	0.21	0.30
	HC ≥ 15	70	0.27	0.32

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.15	HC ≥ 5	15	0.17	0.26
	HC ≥ 10	15	0.23	0.35
	HC ≥ 15	15	0.32	0.38
	HC ≥ 5	72	0.17	0.24
	HC ≥ 10	72	0.22	0.32
	HC ≥ 15	72	0.29	0.35

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.15	HC ≥ 5	12	0.17	0.26
	HC ≥ 10	12	0.23	0.35
	HC ≥ 15	12	0.32	0.38
	HC ≥ 5	70	0.17	0.24
	HC ≥ 10	70	0.22	0.32
	HC ≥ 15	70	0.29	0.35

Daylight Sensing Controls

	Min R-Value		
WALL BELOW GRADE:	7		
UNHEATED SLAB ON GRADE:	24"	36"	48"
Horizontal	10	9	7
Vertical	6	5	4

	Max Uo
ROOF:	0.057
WALL ADJACENT TO UNCOND SPACE:	0.22
FLOOR OVER UNCOND SPACE:	0.100

TABLE 5.4-11

ALTERNATE COMPONENT PACKAGES FOR:

China Lake CA
Daggett CA
Las Vegas CA
Tuscon AZ

HDD50 = 1 - 1000
CDD65 = 2001 - 3250
VSEW = > 845
CDH80 = > 10000

Uof

BASE CASE		
1.15 to 0.82	0.81 to 0	N/A

PERIMETER DAYLIGHTING		
1.15 to 0.82	0.81 to 0	0.81 to 0

OPAQUE WALL Uow	
LIGHT WEIGHT WALL	MASS WALL

VLT ≥ SC

INTERNAL LOAD DENSITY (ILD) RANGE	PROJECTION FACTOR (PF)	SHADING COEFF RANGE (SCx)								
0 - 1.50	0.000 - 0.249	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00	17 21 25 30 39 59	17 22 26 31 42 65	18 23 27 32 42 63	19 23 28 34 45 70	19 24 29 35 46 71	0.17	HC ≥ 5 HC ≥ 10 HC ≥ 15 HC ≥ 5 HC ≥ 10 HC ≥ 15	17 17 17 71 71 71	0.19 0.24 0.29 0.19 0.24 0.29	0.24 0.31 0.33 0.24 0.31 0.33
	0.250 - 0.499	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.00	22 28 33 39 51	23 29 34 42 56	24 30 36 42 55	25 31 37 45 60	26 32 38 46 61					
	0.500 +	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.00	29 36 42 50	30 38 45 54	31 39 45 54	33 41 49 59	33 42 50 60					
1.51 - 3.00	0.000 - 0.249	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00	14 17 20 25 33 50	14 17 21 25 34 54	18 23 27 33 43 65	19 23 28 34 45 71	20 25 30 36 48 75	0.17	HC ≥ 5 HC ≥ 10 HC ≥ 15 HC ≥ 5 HC ≥ 10 HC ≥ 15	14 14 14 75 75 75	0.19 0.24 0.30 0.19 0.24 0.30	0.25 0.31 0.34 0.25 0.31 0.34
	0.250 - 0.499	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.00	18 23 27 33 43	18 23 28 34 46	24 30 36 43 56	25 31 37 46 61	26 33 40 48 65					
	0.500 +	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.00	24 29 35 42	24 31 37 45	32 39 46 55	33 41 49 60	35 43 52 63					
3.01 - 3.50	0.000 - 0.249	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00	12 15 17 21 28 44	12 15 18 22 29 46	17 21 25 31 40 61	17 22 26 32 43 67	19 24 28 35 46 72	0.17	HC ≥ 5 HC ≥ 10 HC ≥ 15 HC ≥ 5 HC ≥ 10 HC ≥ 15	12 12 12 72 72 72	0.19 0.24 0.30 0.19 0.25 0.31	0.25 0.31 0.34 0.25 0.32 0.35
	0.250 - 0.499	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.00	15 20 23 28 37	16 20 24 29 39	23 28 34 40 53	23 29 35 43 58	25 32 38 46 62					
	0.500 +	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.00	20 25 30 36	21 26 31 38	30 37 44 52	31 39 46 56	33 42 50 61					

Daylight Sensing Controls

	Min R-Value		
WALL BELOW GRADE:	0		
UNHEATED SLAB ON GRADE:	24"	36"	48"
Horizontal	0	0	0
Vertical	0	0	0

	Max Uo
ROOF:	0.049
WALL ADJACENT TO UNCOND SPACE:	0.25
FLOOR OVER UNCOND SPACE:	0.12

ALTERNATE COMPONENT PACKAGES FOR:

HDD65 = 1 - 1000
CDD65 = 3251 - 4500
VSEW = > 845
CDH80 = 0 - 18000

Brownsville TX
Corpus Christi TX
Kingsville TX
Miami FL
Orlando FL

West Palm Beach FL

TABLE 5.4-12

Uof

BASE CASE		
1.15 to 0.82	0.81 to 0	N/A

PERIMETER DAYLIGHTING		
1.15 to 0.82	0.81 to 0	0.81 to 0

OPAQUE WALL Uow

LIGHT WEIGHT WALL	MASS WALL

INTERNAL LOAD DENSITY (ILD) RANGE	PROJECTION FACTOR (PF)	SHADING COEFF RANGE (SCx)	BASE CASE	PERIMETER DAYLIGHTING		VLT ≥ SC
0 - 1.50	0.000 - 0.249	1.000 - 0.71	15	18	17	18
		0.709 - 0.60	20	22	22	23
		0.599 - 0.50	24	27	27	28
		0.499 - 0.38	29	34	33	34
		0.379 - 0.25	41	48	46	48
		0.249 - 0.00	74	86	80	83
	0.250 - 0.499	1.000 - 0.71	21	24	24	24
		0.709 - 0.60	27	31	30	31
		0.599 - 0.50	33	38	37	38
		0.499 - 0.38	41	48	46	47
		0.379 - 0.00	59	69	66	67
	0.500 +	1.000 - 0.71	28	32	31	32
		0.709 - 0.60	36	42	41	42
		0.599 - 0.50	44	52	50	51
		0.499 - 0.00	57	67	63	65
1.51 - 3.00	0.000 - 0.249	1.000 - 0.71	13	19	19	21
		0.709 - 0.60	16	25	24	26
		0.599 - 0.50	20	31	30	32
		0.499 - 0.38	24	38	37	40
		0.379 - 0.25	34	55	52	56
		0.249 - 0.00	61	97	88	95
	0.250 - 0.499	1.000 - 0.71	17	27	26	28
		0.709 - 0.60	22	35	34	36
		0.599 - 0.50	27	43	41	44
		0.499 - 0.38	34	55	52	55
		0.379 - 0.00	49	79	73	78
	0.500 +	1.000 - 0.71	23	36	35	37
		0.709 - 0.60	30	48	46	49
		0.599 - 0.50	37	60	57	60
		0.499 - 0.00	47	76	71	76
3.01 - 3.50	0.000 - 0.249	1.000 - 0.71	10	18	17	20
		0.709 - 0.60	13	23	22	25
		0.599 - 0.50	16	28	27	31
		0.499 - 0.38	19	35	34	38
		0.379 - 0.25	27	51	48	53
		0.249 - 0.00	48	89	81	90
	0.250 - 0.499	1.000 - 0.71	14	24	24	27
		0.709 - 0.60	17	32	31	34
		0.599 - 0.50	21	40	38	42
		0.499 - 0.38	27	51	48	53
		0.379 - 0.00	38	73	69	75
	0.500 +	1.000 - 0.71	18	33	32	36
		0.709 - 0.60	23	44	42	46
		0.599 - 0.50	29	56	52	57
		0.499 - 0.00	36	71	67	72

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.49	HC ≥ 5	15	0.61	0.76
	HC ≥ 10	15	0.80	0.80
	HC ≥ 15	15	0.80	0.80
	HC ≥ 5	86	0.65	0.80
	HC ≥ 10	86	0.80	0.80
	HC ≥ 15	86	0.80	0.80

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.49	HC ≥ 5	13	0.61	0.76
	HC ≥ 10	13	0.80	0.80
	HC ≥ 15	13	0.80	0.80
	HC ≥ 5	88	0.67	0.80
	HC ≥ 10	88	0.80	0.80
	HC ≥ 15	88	0.80	0.80

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.49	HC ≥ 5	10	0.61	0.76
	HC ≥ 10	10	0.80	0.80
	HC ≥ 15	10	0.80	0.80
	HC ≥ 5	90	0.67	0.80
	HC ≥ 10	90	0.80	0.80
	HC ≥ 15	90	0.80	0.80

Daylight Sensing Controls

	Min R-Value		
WALL BELOW GRADE:	0		
UNHEATED SLAB ON GRADE:	24"	36"	48"
Horizontal	0	0	0
Vertical	0	0	0

	Max Uo
ROOF:	0.064
WALL ADJACENT TO UNCOND SPACE:	0.63
FLOOR OVER UNCOND SPACE:	0.28

ALTERNATE COMPONENT PACKAGES FOR:

Laredo TX
Phoenix AZ
Yuma AZ

TABLE 5.4-13

HDD65 = 1 - 1000
CDD65 = 3250 - 4500
VSEW = > 845
CDH80 = > 10000

Uof

BASE CASE		
1.15 to 0.82	0.81 to 0	N/A

PERIMETER DAYLIGHTING		
1.15 to 0.82	0.81 to 0	0.81 to 0

OPAQUE WALL Uow	
LIGHT WEIGHT WALL	MASS WALL

VLT ≥ SC

INTERNAL LOAD DENSITY (ILD) RANGE	PROJECTION FACTOR (PF)	SHADING COEFF RANGE (SCx)								
0 - 1.50	0.000 - 0.249	1.000 - 0.71	15	15	17	17	17	0.35	HC ≥ 5	15	0.41	0.50
		0.709 - 0.60	19	19	22	21	22		HC ≥ 10	15	0.51	0.59
		0.599 - 0.50	23	23	27	26	27		HC ≥ 15	15	0.59	0.62
		0.499 - 0.38	29	28	33	33	34					
		0.379 - 0.25	41	40	47	46	48		HC ≥ 5	88	0.43	0.54
		0.249 - 0.00	75	72	88	83	85		HC ≥ 10	88	0.58	0.68
	0.250 - 0.499	1.000 - 0.71	28	28	23	23	24		HC ≥ 15	88	0.65	0.69
		0.709 - 0.60	26	26	30	30	30					
		0.599 - 0.50	32	31	37	36	37					
		0.499 - 0.38	40	40	47	46	47					
		0.379 - 0.00	59	57	69	66	68					
	0.500 +	1.000 - 0.71	27	27	31	31	32					
		0.709 - 0.60	35	35	41	40	41					
		0.599 - 0.50	44	43	51	50	51					
		0.499 - 0.00	58	55	67	64	66					
1.51 - 3.00	0.000 - 0.249	1.000 - 0.71	12	12	19	19	20	0.35	HC ≥ 5	12	0.41	0.50
		0.709 - 0.60	16	16	24	24	26		HC ≥ 10	12	0.51	0.59
		0.599 - 0.50	19	19	30	29	32		HC ≥ 15	12	0.59	0.62
		0.499 - 0.38	24	24	38	37	40					
		0.379 - 0.25	34	33	55	53	57		HC ≥ 5	92	0.43	0.54
		0.249 - 0.00	62	59	100	92	100		HC ≥ 10	92	0.58	0.68
	0.250 - 0.499	1.000 - 0.71	17	17	26	26	28		HC ≥ 15	92	0.66	0.70
		0.709 - 0.60	22	21	34	33	36					
		0.599 - 0.50	27	26	42	41	44					
		0.499 - 0.38	34	33	55	52	56					
		0.379 - 0.00	49	47	80	75	81					
	0.500 +	1.000 - 0.71	23	22	36	35	37					
		0.709 - 0.60	29	29	47	46	49					
		0.599 - 0.50	36	36	60	57	61					
		0.499 - 0.00	47	45	77	73	78					
3.01 - 3.50	0.000 - 0.249	1.000 - 0.71	10	10	17	17	19	0.35	HC ≥ 5	10	0.41	0.49
		0.709 - 0.60	13	12	22	22	25		HC ≥ 10	10	0.50	0.58
		0.599 - 0.50	15	15	27	27	30		HC ≥ 15	10	0.58	0.61
		0.499 - 0.38	19	19	34	34	38					
		0.379 - 0.25	27	26	51	49	54		HC ≥ 5	91	0.42	0.53
		0.249 - 0.00	48	46	91	84	95		HC ≥ 10	91	0.55	0.65
	0.250 - 0.499	1.000 - 0.71	13	13	24	23	26		HC ≥ 15	91	0.65	0.69
		0.709 - 0.60	17	17	31	30	34					
		0.599 - 0.50	21	21	39	38	42					
		0.499 - 0.38	27	26	50	48	53					
		0.379 - 0.00	38	37	74	70	77					
	0.500 +	1.000 - 0.71	18	17	33	32	35					
		0.709 - 0.60	23	23	43	42	46					
		0.599 - 0.50	29	28	55	53	58					
		0.499 - 0.00	37	36	72	68	74					

Daylight Sensing Controls

	Min R-Value		
WALL BELOW GRADE:	0		
UNHEATED SLAB ON GRADE:	24"	36"	48"
Horizontal	0	0	0
Vertical	0	0	0

	Max Uo
ROOF:	0.045
WALL ADJACENT TO UNCOND SPACE:	0.42
FLOOR OVER UNCOND SPACE:	0.28

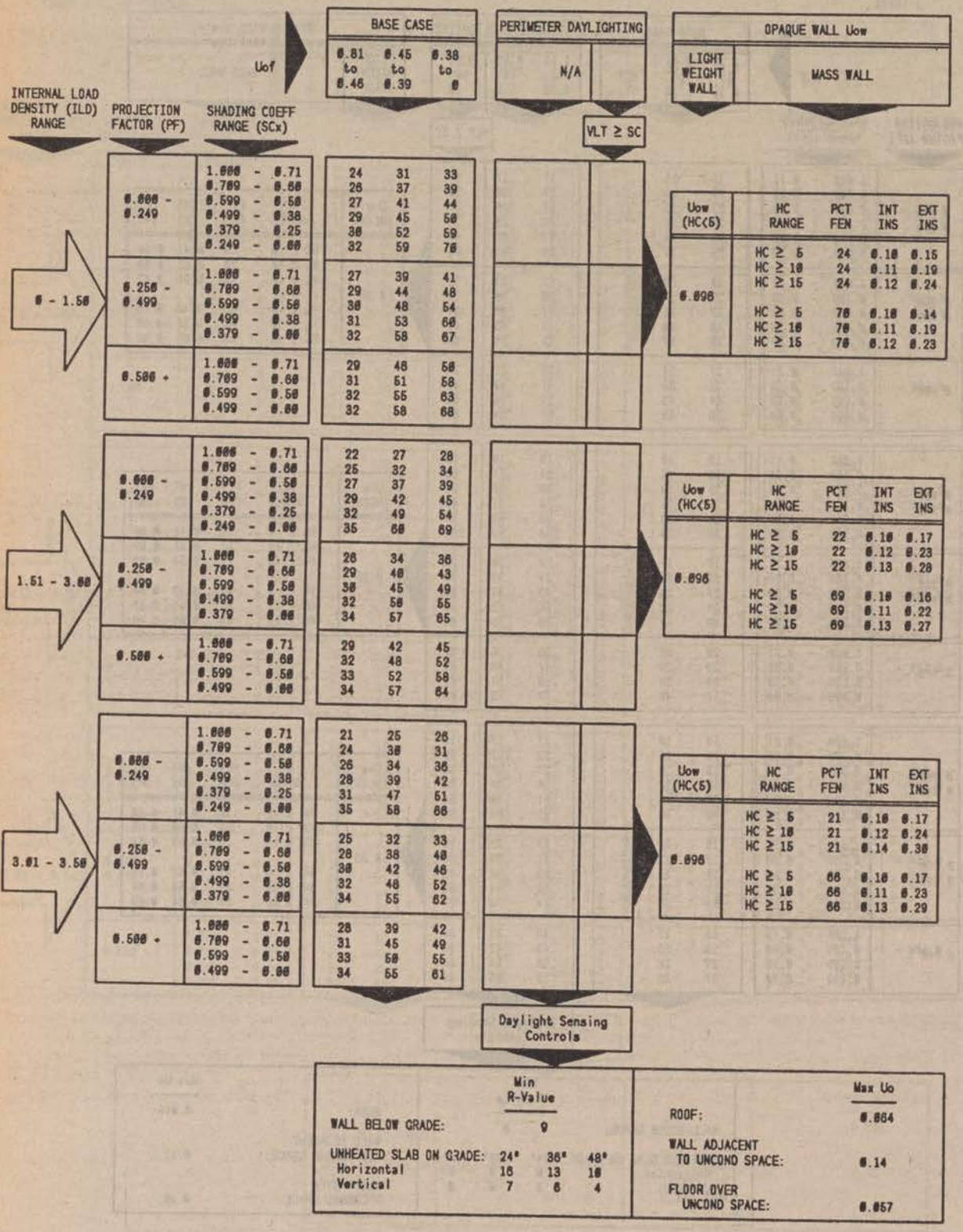
ALTERNATE COMPONENT PACKAGES FOR:

HDD58 = 1881 - 1758
CDD65 = 8 - 588
VSEW = 588 - 845

Astoria OR
Olympia WA
Portland OR
Salem OR
Seattle WA

Whidbey Island WA

TABLE 5.4-14



	Min R-Value		
WALL BELOW GRADE:	9		
UNHEATED SLAB ON GRADE:	24"	36"	48"
Horizontal	16	13	10
Vertical	7	6	4

	Max Uo
ROOF:	0.064
WALL ADJACENT TO UNCOND SPACE:	0.14
FLOOR OVER UNCOND SPACE:	0.057

ALTERNATE COMPONENT PACKAGES FOR:

Asheville NC
Medford OR

TABLE 5.4-15

HDD50 = 1001 - 1750
CDD65 = 501 - 1150
VSEW = 560 - 845

INTERNAL LOAD DENSITY (ILD) RANGE	PROJECTION FACTOR (PF)	SHADING COEFF RANGE (SCx)	BASE CASE Uof 0.61 to 0.46	BASE CASE Uof 0.45 to 0.39	BASE CASE Uof 0.38 to 0	PERIMETER DAYLIGHTING Uof 0.61 to 0.46	PERIMETER DAYLIGHTING Uof 0.45 to 0	PERIMETER DAYLIGHTING Uof 0.38 to 0
								VLT ≥ SC
0 - 1.50	0.000 - 0.249	1.000 - 0.71	20	24	25	22	26	27
		0.709 - 0.60	24	29	30	25	31	33
		0.599 - 0.50	26	34	35	27	36	38
		0.499 - 0.38	29	39	41	30	41	44
		0.379 - 0.25	33	47	51	33	50	55
		0.249 - 0.00	38	61	69	38	63	72
	0.250 - 0.499	1.000 - 0.71	25	31	32	26	33	35
		0.709 - 0.60	28	37	39	29	40	42
		0.599 - 0.50	31	42	45	31	45	49
		0.499 - 0.38	33	48	52	34	50	56
		0.379 - 0.00	36	57	63	37	59	67
	0.500 +	1.000 - 0.71	29	39	41	30	41	45
		0.709 - 0.60	32	46	49	33	48	53
		0.599 - 0.50	34	51	56	35	53	60
		0.499 - 0.00	36	57	63	37	59	67
1.51 - 3.00	0.000 - 0.249	1.000 - 0.71	18	20	20	22	27	28
		0.709 - 0.60	21	25	25	26	32	34
		0.599 - 0.50	24	29	30	29	37	40
		0.499 - 0.38	27	34	35	32	43	46
		0.379 - 0.25	32	42	45	36	52	58
		0.249 - 0.00	39	50	63	41	67	77
	0.250 - 0.499	1.000 - 0.71	22	26	27	27	34	35
		0.709 - 0.60	26	32	33	31	41	44
		0.599 - 0.50	29	37	39	33	46	51
		0.499 - 0.38	32	43	45	36	53	59
		0.379 - 0.00	37	53	57	40	62	71
	0.500 +	1.000 - 0.71	27	33	34	31	43	46
		0.709 - 0.60	31	40	42	35	50	55
		0.599 - 0.50	33	46	48	37	56	63
		0.499 - 0.00	36	52	56	39	62	71
3.01.- 3.50	0.000 - 0.249	1.000 - 0.71	16	18	18	22	26	27
		0.709 - 0.60	19	22	22	25	31	33
		0.599 - 0.50	22	25	26	28	36	39
		0.499 - 0.38	25	30	31	31	42	45
		0.379 - 0.25	29	38	40	35	51	57
		0.249 - 0.00	36	52	57	40	65	75
	0.250 - 0.499	1.000 - 0.71	20	23	23	26	33	35
		0.709 - 0.60	24	28	29	30	40	43
		0.599 - 0.50	26	33	34	32	45	50
		0.499 - 0.38	29	38	40	35	51	58
		0.379 - 0.00	34	47	51	39	61	70
	0.500 +	1.000 - 0.71	24	29	30	31	41	45
		0.709 - 0.60	28	35	37	34	48	54
		0.599 - 0.50	31	41	43	36	54	61
		0.499 - 0.00	34	47	50	38	60	70

OPAQUE WALL Uow

LIGHT WEIGHT WALL	MASS WALL

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.10	HC ≥ 5	20	0.11	0.15
	HC ≥ 10	20	0.13	0.19
	HC ≥ 15	20	0.15	0.20
	HC ≥ 5	72	0.11	0.14
	HC ≥ 10	72	0.13	0.17
	HC ≥ 15	72	0.14	0.18

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.10	HC ≥ 5	18	0.11	0.17
	HC ≥ 10	18	0.14	0.22
	HC ≥ 15	18	0.18	0.24
	HC ≥ 5	77	0.11	0.15
	HC ≥ 10	77	0.13	0.19
	HC ≥ 15	77	0.15	0.20

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.10	HC ≥ 5	16	0.11	0.17
	HC ≥ 10	16	0.15	0.23
	HC ≥ 15	16	0.18	0.26
	HC ≥ 5	75	0.11	0.15
	HC ≥ 10	75	0.13	0.19
	HC ≥ 15	75	0.15	0.20

Daylight Sensing Controls

	Min R-Value
WALL BELOW GRADE:	8

UNHEATED SLAB ON GRADE:	24'	36'	48'
Horizontal	15	12	10
Vertical	7	5	4

	Max Uo
ROOF:	0.063
WALL ADJACENT TO UNCOND SPACE:	0.16
FLOOR OVER UNCOND SPACE:	0.064

ALTERNATE COMPONENT PACKAGES FOR:

HDD65 = 1001 - 1750
CDD65 = 1 - 1150
VSEW = > 845

Prescott AZ
Winslow AZ
Yucca Flats NV

TABLE 5.4-16

INTERNAL LOAD DENSITY (ILD) RANGE	PROJECTION FACTOR (PF)	SHADING COEFF RANGE (SCx)	BASE CASE Uof: 0.81 to 0.46	BASE CASE Uof: 0.45 to 0.39	BASE CASE Uof: 0.38 to 0	PERIMETER DAYLIGHTING Uof: 0.81 to 0.46	PERIMETER DAYLIGHTING Uof: 0.45 to 0	PERIMETER DAYLIGHTING Uof: 0.38 to 0
								VLT ≥ SC
0 - 1.50	0.000 - 0.249	1.000 - 0.71	15	17	17	17	19	19
		0.709 - 0.60	18	21	21	20	23	24
		0.599 - 0.50	21	24	25	22	27	28
		0.499 - 0.38	24	29	30	25	31	33
		0.379 - 0.25	28	36	38	29	39	42
		0.249 - 0.00	35	50	54	36	53	58
	0.250 - 0.499	1.000 - 0.71	19	22	23	21	25	28
		0.709 - 0.60	23	27	28	24	30	31
		0.599 - 0.50	25	32	33	27	34	37
		0.499 - 0.38	28	37	39	30	40	43
		0.379 - 0.00	33	46	49	34	48	53
	0.500 +	1.000 - 0.71	24	29	30	25	31	33
		0.709 - 0.60	27	34	36	28	37	40
		0.599 - 0.50	30	39	42	31	42	46
		0.499 - 0.00	33	45	49	34	48	53
1.51 - 3.00	0.000 - 0.249	1.000 - 0.71	13	13	14	17	18	20
		0.709 - 0.60	15	17	17	20	23	25
		0.599 - 0.50	18	20	20	22	26	29
		0.499 - 0.38	20	23	24	25	31	34
		0.379 - 0.25	25	30	31	30	39	44
		0.249 - 0.00	33	43	46	37	53	62
	0.250 - 0.499	1.000 - 0.71	16	18	18	21	24	26
		0.709 - 0.60	19	22	22	24	29	32
		0.599 - 0.50	22	26	26	27	34	38
		0.499 - 0.38	25	30	31	30	40	44
		0.379 - 0.00	30	39	40	35	49	56
	0.500 +	1.000 - 0.71	20	23	24	25	31	34
		0.709 - 0.60	24	28	29	29	37	41
		0.599 - 0.50	27	33	34	32	42	48
		0.499 - 0.00	30	38	40	35	49	55
3.01 - 3.50	0.000 - 0.249	1.000 - 0.71	11	11	11	15	17	19
		0.709 - 0.60	13	14	14	18	21	24
		0.599 - 0.50	15	17	17	21	25	28
		0.499 - 0.38	18	20	20	24	29	33
		0.379 - 0.25	22	26	27	28	37	42
		0.249 - 0.00	29	37	39	35	50	59
	0.250 - 0.499	1.000 - 0.71	14	15	15	20	23	25
		0.709 - 0.60	17	19	19	23	28	31
		0.599 - 0.50	19	22	22	25	32	36
		0.499 - 0.38	22	26	27	28	37	43
		0.379 - 0.00	27	33	35	33	46	54
	0.500 +	1.000 - 0.71	17	19	20	24	29	33
		0.709 - 0.60	21	24	25	27	35	40
		0.599 - 0.50	23	28	29	30	40	46
		0.499 - 0.00	26	33	34	33	45	53

OPAQUE WALL Uow

LIGHT WEIGHT WALL	MASS WALL			
Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.11	HC ≥ 5	15	0.12	0.17
	HC ≥ 10	15	0.14	0.21
	HC ≥ 15	15	0.17	0.23
	HC ≥ 5	50	0.11	0.16
	HC ≥ 10	50	0.14	0.20
	HC ≥ 15	50	0.18	0.21

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.11	HC ≥ 5	13	0.12	0.19
	HC ≥ 10	13	0.16	0.25
	HC ≥ 15	13	0.20	0.27
	HC ≥ 5	62	0.12	0.17
	HC ≥ 10	62	0.15	0.22
	HC ≥ 15	62	0.18	0.23

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.11	HC ≥ 5	11	0.12	0.19
	HC ≥ 10	11	0.16	0.26
	HC ≥ 15	11	0.21	0.28
	HC ≥ 5	59	0.12	0.17
	HC ≥ 10	59	0.15	0.22
	HC ≥ 15	59	0.18	0.24

Daylight Sensing Controls

	Min R-Value		
WALL BELOW GRADE:	8		
UNHEATED SLAB ON GRADE:	24"	36"	48"
Horizontal	15	12	10
Vertical	7	5	4

	Max Uo
ROOF:	0.055
WALL ADJACENT TO UNCOND SPACE:	0.10
FLOOR OVER UNCOND SPACE:	0.065

ALTERNATE COMPONENT PACKAGES FOR:

HDD50 = 1001 - 1750
CDD65 = 1151 - 2000
VSEW = 560 - 845

Charlotte NC
Chattanooga TN
Greensboro NC
Knoxville TN
Nashville TN
Norfolk VA
Patuxent MD
Raleigh NC
Richmond VA
Roanoke VA

TABLE 5.4-17

INTERNAL LOAD DENSITY (ILD) RANGE	PROJECTION FACTOR (PF)	SHADING COEFF RANGE (SCx)	BASE CASE Uof: 0.81 to 0.46	BASE CASE Uof: 0.45 to 0.39	BASE CASE Uof: 0.38 to 0	PERIMETER DAYLIGHTING Uof: 0.81 to 0.46	PERIMETER DAYLIGHTING Uof: 0.45 to 0	PERIMETER DAYLIGHTING Uof: 0.38 to 0 (VLT ≥ SC)
0 - 1.50	0.000 - 0.249	1.000 - 0.71	16	18	18	18	20	20
		0.709 - 0.60	20	22	22	21	24	25
		0.599 - 0.50	23	26	26	24	28	30
		0.499 - 0.38	26	30	31	28	33	35
		0.379 - 0.25	32	39	40	34	43	46
		0.249 - 0.00	41	56	59	43	60	66
	0.250 - 0.499	1.000 - 0.71	21	23	24	23	26	27
		0.709 - 0.60	25	28	29	27	31	33
		0.599 - 0.50	28	33	34	30	37	39
		0.499 - 0.38	32	39	41	34	43	46
		0.379 - 0.00	38	50	52	40	54	58
	0.500 +	1.000 - 0.71	26	30	30	28	33	34
		0.709 - 0.60	30	36	37	32	40	42
		0.599 - 0.50	34	42	44	36	46	49
		0.499 - 0.00	38	49	51	40	53	58
1.51 - 3.00	0.000 - 0.249	1.000 - 0.71	13	14	14	18	20	21
		0.709 - 0.60	16	17	17	22	24	27
		0.599 - 0.50	19	21	21	25	29	31
		0.499 - 0.38	22	25	25	29	34	37
		0.379 - 0.25	28	32	33	35	44	49
		0.249 - 0.00	37	47	49	45	62	70
	0.250 - 0.499	1.000 - 0.71	17	18	19	23	26	28
		0.709 - 0.60	21	23	23	27	32	35
		0.599 - 0.50	24	27	27	31	37	41
		0.499 - 0.38	28	32	33	35	44	49
		0.379 - 0.00	34	41	43	41	55	63
	0.500 +	1.000 - 0.71	21	24	24	28	33	36
		0.709 - 0.60	26	29	30	33	40	45
		0.599 - 0.50	29	34	35	37	47	52
		0.499 - 0.00	33	41	42	41	55	61
3.01 - 3.50	0.000 - 0.249	1.000 - 0.71	11	12	12	17	18	20
		0.709 - 0.60	14	14	15	20	23	25
		0.599 - 0.50	16	17	17	23	27	30
		0.499 - 0.38	19	21	21	27	32	36
		0.379 - 0.25	24	27	28	33	41	47
		0.249 - 0.00	32	46	42	42	58	68
	0.250 - 0.499	1.000 - 0.71	14	15	15	22	24	27
		0.709 - 0.60	18	19	19	25	30	34
		0.599 - 0.50	20	23	23	29	35	39
		0.499 - 0.38	24	27	28	33	41	47
		0.379 - 0.00	29	35	36	39	52	60
	0.500 +	1.000 - 0.71	18	20	20	26	31	35
		0.709 - 0.60	22	24	25	31	38	43
		0.599 - 0.50	25	29	29	34	44	50
		0.499 - 0.00	29	34	35	38	51	59

OPAQUE WALL Uow

LIGHT WEIGHT WALL	MASS WALL

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.12	HC ≥ 5	16	0.14	0.18
	HC ≥ 10	16	0.17	0.22
	HC ≥ 15	16	0.19	0.24
	HC ≥ 5	66	0.14	0.18
	HC ≥ 10	66	0.16	0.21
	HC ≥ 15	66	0.19	0.23

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.12	HC ≥ 5	13	0.14	0.20
	HC ≥ 10	13	0.18	0.26
	HC ≥ 15	13	0.23	0.29
	HC ≥ 5	70	0.14	0.18
	HC ≥ 10	70	0.17	0.23
	HC ≥ 15	70	0.20	0.25

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.12	HC ≥ 5	11	0.14	0.20
	HC ≥ 10	11	0.19	0.27
	HC ≥ 15	11	0.24	0.30
	HC ≥ 5	68	0.14	0.19
	HC ≥ 10	68	0.17	0.23
	HC ≥ 15	68	0.20	0.25

Daylight Sensing Controls

	Min R-Value		
WALL BELOW GRADE:	8		
UNHEATED SLAB ON GRADE:	24"	36"	48"
Horizontal	13	11	9
Vertical	6	5	4

	Max Uo
ROOF:	0.066
WALL ADJACENT TO UNCOND SPACE:	0.17
FLOOR OVER UNCOND SPACE:	0.074

ALTERNATE COMPONENT PACKAGES FOR:

HDD65 = 1001 - 1750
CDD65 = 1151 - 2000
VSEW = > 845

Albuquerque NM
Amarillo TX
Lubbock TX
Oklahoma City OK
Roswell NM

Truth or Consequences NM
Tucumcari NM

TABLE 5.4-18

Uof

INTERNAL LOAD DENSITY (ILD) RANGE	PROJECTION FACTOR (PF)	SHADING COEFF RANGE (SCx)	BASE CASE 0.81 to 0.46	BASE CASE 0.45 to 0.39	BASE CASE 0.38 to 0	PERIMETER DAYLIGHTING 0.81 to 0.46	PERIMETER DAYLIGHTING 0.45 to 0	PERIMETER DAYLIGHTING 0.38 to 0
0 - 1.50	0.000 - 0.249	1.000 - 0.71	14	15	16	15	17	17
		0.709 - 0.60	17	19	19	18	21	22
		0.599 - 0.50	19	22	23	20	24	25
		0.499 - 0.38	22	26	27	23	28	30
		0.379 - 0.25	27	33	35	28	36	38
		0.249 - 0.00	33	47	50	35	49	54
	0.250 - 0.499	1.000 - 0.71	18	20	21	19	22	23
		0.709 - 0.60	21	25	26	22	27	28
		0.599 - 0.50	24	29	30	25	31	33
		0.499 - 0.38	27	34	35	28	36	39
		0.379 - 0.00	31	42	45	32	45	49
	0.500 +	1.000 - 0.71	22	26	27	23	28	30
		0.709 - 0.60	25	31	33	27	34	36
		0.599 - 0.50	28	36	38	29	39	42
		0.499 - 0.00	31	42	45	32	45	49
1.51 - 3.00	0.000 - 0.249	1.000 - 0.71	11	12	12	15	16	18
		0.709 - 0.60	14	15	15	18	20	22
		0.599 - 0.50	16	18	18	20	23	26
		0.499 - 0.38	19	21	22	23	28	31
		0.379 - 0.25	23	27	28	28	35	40
		0.249 - 0.00	31	39	42	35	49	57
	0.250 - 0.499	1.000 - 0.71	15	16	16	19	22	24
		0.709 - 0.60	18	20	20	22	26	29
		0.599 - 0.50	20	23	24	25	30	34
		0.499 - 0.38	23	27	28	28	36	40
		0.379 - 0.00	28	35	37	33	45	51
	0.500 +	1.000 - 0.71	18	21	21	23	28	31
		0.709 - 0.60	22	25	26	27	33	37
		0.599 - 0.50	24	29	30	29	38	43
		0.499 - 0.00	28	35	36	33	44	51
3.01 - 3.50	0.000 - 0.249	1.000 - 0.71	10	10	10	14	15	17
		0.709 - 0.60	12	13	13	16	18	21
		0.599 - 0.50	14	15	15	19	22	25
		0.499 - 0.38	16	18	18	21	26	29
		0.379 - 0.25	20	23	24	26	33	38
		0.249 - 0.00	27	34	35	33	46	54
	0.250 - 0.499	1.000 - 0.71	12	13	14	17	20	22
		0.709 - 0.60	15	17	17	20	24	28
		0.599 - 0.50	17	20	20	23	28	33
		0.499 - 0.38	20	23	24	26	33	38
		0.379 - 0.00	24	30	31	30	41	49
	0.500 +	1.000 - 0.71	16	17	18	21	25	29
		0.709 - 0.60	19	21	22	25	31	36
		0.599 - 0.50	21	25	26	27	35	41
		0.499 - 0.00	24	29	31	30	41	48

VLT ≥ SC

OPAQUE WALL Uow

LIGHT WEIGHT WALL	MASS WALL

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.11	HC ≥ 5	14	0.12	0.16
	HC ≥ 10	14	0.14	0.21
	HC ≥ 15	14	0.17	0.22
	HC ≥ 5	54	0.11	0.16
	HC ≥ 10	54	0.14	0.19
	HC ≥ 15	54	0.18	0.21

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.11	HC ≥ 5	11	0.12	0.18
	HC ≥ 10	11	0.15	0.23
	HC ≥ 15	11	0.19	0.26
	HC ≥ 5	57	0.12	0.17
	HC ≥ 10	57	0.15	0.21
	HC ≥ 15	57	0.17	0.23

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.11	HC ≥ 5	10	0.12	0.18
	HC ≥ 10	10	0.16	0.24
	HC ≥ 15	10	0.20	0.28
	HC ≥ 5	54	0.12	0.17
	HC ≥ 10	54	0.15	0.22
	HC ≥ 15	54	0.18	0.23

Daylight Sensing Controls

	Min R-Value		
WALL BELOW GRADE:	8		
UNHEATED SLAB ON GRADE:	24"	36"	48"
Horizontal	14	11	9
Vertical	7	5	4

	Max Uo
ROOF:	0.050
WALL ADJACENT TO UNCOND SPACE:	0.17
FLOOR OVER UNCOND SPACE:	0.070

ALTERNATE COMPONENT PACKAGES FOR:

HDD65 = 1801 - 1750
CDD65 = 2001 - 3250
VSEW = 500 - 845

Fort Smith AR
Memphis TN
Tulsa OK

TABLE 5.4-19

Uof

BASE CASE		
0.81 to 0.46	0.45 to 0.39	0.38 to 0

PERIMETER DAYLIGHTING		
0.81 to 0.46	0.45 to 0	0.38 to 0

OPAQUE WALL Uow	
LIGHT WEIGHT WALL	MASS WALL

INTERNAL LOAD DENSITY (ILD) RANGE	PROJECTION FACTOR (PF)	SHADING COEFF RANGE (SCx)	BASE CASE			PERIMETER DAYLIGHTING		VLT ≥ SC
0 - 1.50	0.000 - 0.249	1.000 - 0.71	14	15	15	16	17	17
		0.709 - 0.60	17	19	19	19	21	22
		0.599 - 0.50	20	22	22	22	25	26
		0.499 - 0.38	24	26	27	26	29	31
		0.379 - 0.25	30	35	36	32	38	41
		0.249 - 0.00	41	52	54	43	57	62
	0.250 - 0.499	1.000 - 0.71	18	20	20	20	22	23
		0.709 - 0.60	22	25	25	24	27	29
		0.599 - 0.50	26	29	30	28	32	34
		0.499 - 0.38	30	35	36	32	39	41
		0.379 - 0.00	37	45	47	40	50	53
	0.500 +	1.000 - 0.71	23	26	26	25	29	30
		0.709 - 0.60	28	32	32	30	35	37
		0.599 - 0.50	32	37	38	34	41	44
		0.499 - 0.00	36	44	46	39	49	52
1.51 - 3.00	0.000 - 0.249	1.000 - 0.71	11	11	11	15	16	18
		0.709 - 0.60	13	14	14	19	20	22
		0.599 - 0.50	16	17	17	22	24	27
		0.499 - 0.38	19	20	20	25	29	32
		0.379 - 0.25	24	27	27	32	38	43
		0.249 - 0.00	34	41	42	43	56	65
	0.250 - 0.499	1.000 - 0.71	14	15	15	20	21	24
		0.709 - 0.60	17	19	19	24	27	30
		0.599 - 0.50	20	22	22	28	32	35
		0.499 - 0.38	24	27	27	32	38	43
		0.379 - 0.00	30	35	36	39	49	56
	0.500 +	1.000 - 0.71	18	19	19	25	28	31
		0.709 - 0.60	22	24	24	30	34	39
		0.599 - 0.50	25	29	29	34	40	46
		0.499 - 0.00	30	34	35	39	48	55
3.01 - 3.50	0.000 - 0.249	1.000 - 0.71	9	9	9	14	14	17
		0.709 - 0.60	11	11	11	17	18	21
		0.599 - 0.50	13	14	14	20	21	25
		0.499 - 0.38	15	16	17	23	26	30
		0.379 - 0.25	20	22	22	29	34	40
		0.249 - 0.00	28	33	34	39	51	61
	0.250 - 0.499	1.000 - 0.71	12	12	12	16	19	22
		0.709 - 0.60	14	15	15	22	24	28
		0.599 - 0.50	17	18	18	25	28	33
		0.499 - 0.38	20	22	22	29	34	40
		0.379 - 0.00	25	29	29	35	44	53
	0.500 +	1.000 - 0.71	15	16	16	22	25	29
		0.709 - 0.60	18	19	20	27	31	36
		0.599 - 0.50	21	23	23	30	36	43
		0.499 - 0.00	24	28	28	35	43	52

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.13	HC ≥ 5	14	0.14	0.20
	HC ≥ 10	14	0.18	0.25
	HC ≥ 15	14	0.22	0.27
	HC ≥ 5	62	0.14	0.20
	HC ≥ 10	62	0.18	0.24
	HC ≥ 15	62	0.21	0.26

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.13	HC ≥ 5	11	0.15	0.21
	HC ≥ 10	11	0.19	0.27
	HC ≥ 15	11	0.24	0.30
	HC ≥ 5	65	0.14	0.20
	HC ≥ 10	65	0.18	0.26
	HC ≥ 15	65	0.23	0.28

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.13	HC ≥ 5	9	0.15	0.22
	HC ≥ 10	9	0.19	0.28
	HC ≥ 15	9	0.24	0.31
	HC ≥ 5	61	0.15	0.21
	HC ≥ 10	61	0.18	0.26
	HC ≥ 15	61	0.23	0.29

Daylight Sensing Controls

	Min R-Value		
WALL BELOW GRADE:	7		
UNHEATED SLAB ON GRADE:	24*	36*	48*
Horizontal	12	10	8
Vertical	6	5	4

	Max Uo
ROOF:	0.058
WALL ADJACENT TO UNCOND SPACE:	0.19
FLOOR OVER UNCOND SPACE:	0.083

ALTERNATE COMPONENT PACKAGES FOR:

HDD65 = 1751 - 2800
CDD65 = 0 - 1150
VSEW = 560 - 845

Baltimore MD
Boston MA
Charleston WV
Columbus OH
Covington KY

Dayton OH
Harrisburg PA
Lewiston ID
Newark NJ
New York NY

New York (LAG) NY
Philadelphia PA
Redmond OR
Washington DC
Yakima WA

TABLE 5.4-28

Uof

INTERNAL LOAD DENSITY (ILD) RANGE	PROJECTION FACTOR (PF)	SHADING COEFF RANGE (SCx)	BASE CASE 0.68 to 0.46	BASE CASE 0.45 to 0.39	BASE CASE 0.38 to 0	PERIMETER DAYLIGHTING 0.68 to 0.46	PERIMETER DAYLIGHTING 0.45 to 0	PERIMETER DAYLIGHTING 0.38 to 0
								VLT ≥ SC
0 - 1.50	0.000 - 0.249	1.000 - 0.71	22	28	27	23	27	29
		0.709 - 0.60	25	30	32	26	32	34
		0.599 - 0.50	27	34	37	28	36	39
		0.499 - 0.38	30	39	42	30	40	44
		0.379 - 0.25	33	45	51	33	46	52
		0.249 - 0.00	36	54	63	36	54	63
	0.250 - 0.499	1.000 - 0.71	26	33	35	27	34	37
		0.709 - 0.60	29	38	41	30	39	43
		0.599 - 0.50	31	42	46	31	43	48
		0.499 - 0.38	33	46	52	33	47	53
		0.379 - 0.00	36	52	60	35	52	61
	0.500 +	1.000 - 0.71	30	39	43	30	41	45
		0.709 - 0.60	33	45	49	33	46	52
		0.599 - 0.50	34	49	55	34	49	56
		0.499 - 0.00	38	52	60	35	53	61
1.51 - 3.00	0.000 - 0.249	1.000 - 0.71	20	22	22	24	28	29
		0.709 - 0.60	23	26	27	27	33	35
		0.599 - 0.50	25	30	32	29	37	40
		0.499 - 0.38	28	35	37	32	41	46
		0.379 - 0.25	32	42	46	35	48	55
		0.249 - 0.00	38	53	60	39	58	68
	0.250 - 0.499	1.000 - 0.71	24	28	29	28	35	37
		0.709 - 0.60	27	33	35	31	40	44
		0.599 - 0.50	30	38	40	33	44	50
		0.499 - 0.38	33	42	46	35	49	56
		0.379 - 0.00	36	50	55	38	55	65
	0.500 +	1.000 - 0.71	28	35	37	32	42	47
		0.709 - 0.60	32	40	43	34	47	54
		0.599 - 0.50	34	45	49	36	51	59
		0.499 - 0.00	36	50	55	38	55	65
3.01 - 3.50	0.000 - 0.249	1.000 - 0.71	18	19	20	23	27	28
		0.709 - 0.60	21	23	24	26	32	34
		0.599 - 0.50	23	27	28	29	36	39
		0.499 - 0.38	26	31	33	31	41	45
		0.379 - 0.25	30	38	41	34	47	54
		0.249 - 0.00	36	49	55	39	57	67
	0.250 - 0.499	1.000 - 0.71	22	25	26	27	34	37
		0.709 - 0.60	25	30	31	30	39	44
		0.599 - 0.50	28	34	36	33	43	49
		0.499 - 0.38	30	39	42	35	48	55
		0.379 - 0.00	34	46	51	38	54	64
	0.500 +	1.000 - 0.71	26	31	33	31	41	46
		0.709 - 0.60	29	36	39	34	46	53
		0.599 - 0.50	32	41	44	36	50	59
		0.499 - 0.00	34	46	50	38	54	64

OPAQUE WALL Uow

LIGHT WEIGHT WALL	MASS WALL

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.088	HC ≥ 5	22	0.096	0.12
	HC ≥ 10	22	0.11	0.15
	HC ≥ 15	22	0.12	0.16
	HC ≥ 5	63	0.093	0.11
	HC ≥ 10	63	0.10	0.13
	HC ≥ 15	63	0.11	0.14

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.088	HC ≥ 5	20	0.097	0.14
	HC ≥ 10	20	0.11	0.17
	HC ≥ 15	20	0.13	0.18
	HC ≥ 5	68	0.096	0.12
	HC ≥ 10	68	0.10	0.14
	HC ≥ 15	68	0.11	0.15

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.088	HC ≥ 5	18	0.098	0.14
	HC ≥ 10	18	0.11	0.18
	HC ≥ 15	18	0.13	0.19
	HC ≥ 5	67	0.095	0.12
	HC ≥ 10	67	0.10	0.14
	HC ≥ 15	67	0.11	0.15

Daylight Sensing Controls

	Min R-Value		
WALL BELOW GRADE:	9		
UNHEATED SLAB ON GRADE:	24"	36"	48"
Horizontal	17	14	11
Vertical	8	6	4

	Max Uo
ROOF:	0.055
WALL ADJACENT TO UNCOND SPACE:	0.13
FLOOR OVER UNCOND SPACE:	0.048

ALTERNATE COMPONENT PACKAGES FOR:

HDD65 = 2601 - 3200
CDD65 = 0 - 1150
VSEW = 500 - 845

Akron OH
Allentown PA
Burlington IA
Chicago IL
Detroit MI
Erie PA
Hartford CT
Indianapolis IN
Omaha NE
Pittsburgh PA
Providence RI
South Bend IN
Spokane WA
Toledo OH
Youngstown OH

TABLE 5.4-21

INTERNAL LOAD DENSITY (ILD) RANGE	PROJECTION FACTOR (PF)	SHADING COEFF RANGE (SCx)	BASE CASE Uof 0.60 to 0.46	BASE CASE Uof 0.45 to 0.39	BASE CASE Uof 0.38 to 0	PERIMETER DAYLIGHTING Uof 0.60 to 0.46	PERIMETER DAYLIGHTING Uof 0.45 to 0	PERIMETER DAYLIGHTING Uof 0.38 to 0
								VLT ≥ SC
0 - 1.50	0.000 - 0.249	1.000 - 0.71	21	26	28	21	27	29
		0.709 - 0.60	24	30	33	23	31	34
		0.599 - 0.50	25	34	37	25	34	38
		0.499 - 0.38	26	37	41	26	37	42
		0.379 - 0.25	28	41	47	27	40	47
		0.249 - 0.00	29	46	54	28	44	53
	0.250 - 0.499	1.000 - 0.71	25	32	35	24	33	37
		0.709 - 0.60	28	36	41	26	37	41
		0.599 - 0.50	27	39	44	27	39	45
		0.499 - 0.38	28	42	48	27	41	48
		0.379 - 0.00	29	45	53	28	44	52
	0.500 +	1.000 - 0.71	27	38	42	26	38	43
		0.709 - 0.60	28	41	47	27	41	48
		0.599 - 0.50	29	44	51	28	43	50
		0.499 - 0.00	30	46	54	29	44	53
1.51 - 3.00	0.000 - 0.249	1.000 - 0.71	19	23	23	22	27	29
		0.709 - 0.60	22	27	28	24	32	34
		0.599 - 0.50	24	30	32	26	35	39
		0.499 - 0.36	26	34	37	28	38	43
		0.379 - 0.25	29	40	44	30	43	49
		0.249 - 0.00	32	47	54	32	49	57
	0.250 - 0.499	1.000 - 0.71	23	28	30	25	33	37
		0.709 - 0.60	26	33	36	27	38	43
		0.599 - 0.50	28	36	40	29	40	47
		0.499 - 0.38	29	40	45	30	43	50
		0.379 - 0.00	31	45	52	32	47	55
	0.500 +	1.000 - 0.71	26	34	37	28	39	45
		0.709 - 0.60	29	39	43	29	42	50
		0.599 - 0.50	30	42	47	30	45	53
		0.499 - 0.00	32	45	52	32	47	55
3.01 - 3.50	0.000 - 0.249	1.000 - 0.71	18	20	21	22	27	29
		0.709 - 0.60	20	24	25	24	31	34
		0.599 - 0.50	23	28	29	26	34	38
		0.499 - 0.38	25	31	34	27	38	43
		0.379 - 0.25	28	37	41	30	43	49
		0.249 - 0.00	31	45	51	32	48	57
	0.250 - 0.499	1.000 - 0.71	21	26	27	25	33	36
		0.709 - 0.60	24	30	32	27	37	42
		0.599 - 0.50	26	34	37	28	40	46
		0.499 - 0.38	28	37	41	30	43	50
		0.379 - 0.00	30	43	48	32	47	55
	0.500 +	1.000 - 0.71	25	31	34	28	38	44
		0.709 - 0.60	27	36	39	29	42	49
		0.599 - 0.50	29	39	44	30	44	53
		0.499 - 0.00	30	43	48	31	47	56

OPAQUE WALL Uow

LIGHT WEIGHT WALL	MASS WALL

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.080	HC ≥ 5	21	0.084	0.10
	HC ≥ 10	21	0.092	0.12
	HC ≥ 15	21	0.099	0.12
	HC ≥ 5	54	0.083	0.10
	HC ≥ 10	54	0.090	0.11
	HC ≥ 15	54	0.095	0.12

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.080	HC ≥ 5	19	0.085	0.11
	HC ≥ 10	19	0.095	0.13
	HC ≥ 15	19	0.10	0.14
	HC ≥ 5	57	0.083	0.10
	HC ≥ 10	57	0.089	0.11
	HC ≥ 15	57	0.095	0.12

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.080	HC ≥ 5	18	0.086	0.11
	HC ≥ 10	18	0.097	0.14
	HC ≥ 15	18	0.10	0.15
	HC ≥ 5	57	0.083	0.10
	HC ≥ 10	57	0.090	0.12
	HC ≥ 15	57	0.096	0.12

Daylight Sensing Controls

	Min R-Value
WALL BELOW GRADE:	10
UNHEATED SLAB ON GRADE:	24" / 36" / 48"
Horizontal	17 / 14 / 11
Vertical	8 / 6 / 4

	Max Uo
ROOF:	0.054
WALL ADJACENT TO UNCOND SPACE:	0.13
FLOOR OVER UNCOND SPACE:	0.047

ALTERNATE COMPONENT PACKAGES FOR:

HDD65 = 1751 - 3200
CDD65 = 0 - 1150
VSEW = > 845

Boise ID
Cedar UT
Clayton NM
Colorado Springs CO
Denver CO

Goodland KS
Lovelock NV
Mount Shasta CA
Pueblo CO
Reno NV

Salt Lake City UT
Tonopah NV
Winnemucca NV

TABLE 5.4-22

INTERNAL LOAD DENSITY (ILD) RANGE	PROJECTION FACTOR (PF)	SHADING COEFF RANGE (SCx)	BASE CASE Uof: 0.60 to 0.46	BASE CASE Uof: 0.45 to 0.39	BASE CASE Uof: 0.38 to 0	PERIMETER DAYLIGHTING Uof: 0.60 to 0.46	PERIMETER DAYLIGHTING Uof: 0.45 to 0	PERIMETER DAYLIGHTING Uof: 0.38 to 0	VLT ≥ SC
0 - 1.50	0.000 - 0.249	1.000 - 0.71	22	24	25	23	26	27	
		0.709 - 0.60	25	29	31	26	31	33	
		0.599 - 0.50	27	33	35	28	35	38	
		0.499 - 0.38	30	38	41	30	39	43	
		0.379 - 0.25	33	45	49	33	46	52	
		0.249 - 0.00	37	54	62	37	55	63	
	0.250 - 0.499	1.000 - 0.71	26	31	33	27	33	36	
		0.709 - 0.60	29	37	39	30	39	42	
		0.599 - 0.50	32	41	45	32	43	47	
		0.499 - 0.38	34	46	50	34	47	53	
		0.379 - 0.00	37	52	59	36	53	61	
	0.500 +	1.000 - 0.71	31	39	41	31	40	44	
		0.709 - 0.60	33	44	48	33	46	51	
		0.599 - 0.50	35	48	54	35	49	56	
		0.499 - 0.00	37	53	60	37	53	62	
1.51 - 3.00	0.000 - 0.249	1.000 - 0.71	19	20	21	23	26	28	
		0.709 - 0.60	22	25	25	26	31	33	
		0.599 - 0.50	25	29	30	29	36	39	
		0.499 - 0.38	28	33	35	32	41	45	
		0.379 - 0.25	32	41	44	36	48	54	
		0.249 - 0.00	39	52	58	40	58	68	
	0.250 - 0.499	1.000 - 0.71	23	26	27	28	34	36	
		0.709 - 0.60	27	32	33	31	39	43	
		0.599 - 0.50	30	36	38	34	44	49	
		0.499 - 0.38	33	41	44	36	48	55	
		0.379 - 0.00	37	49	54	39	55	64	
	0.500 +	1.000 - 0.71	28	33	35	32	41	45	
		0.709 - 0.60	32	39	41	35	47	53	
		0.599 - 0.50	34	44	47	37	51	59	
		0.499 - 0.00	37	49	54	39	55	65	
3.01 - 3.50	0.000 - 0.249	1.000 - 0.71	17	18	18	22	26	27	
		0.709 - 0.60	20	22	23	26	31	33	
		0.599 - 0.50	22	26	26	28	35	38	
		0.499 - 0.38	25	30	31	31	39	44	
		0.379 - 0.25	30	37	39	35	47	53	
		0.249 - 0.00	36	48	53	40	57	67	
	0.250 - 0.499	1.000 - 0.71	21	23	24	27	33	35	
		0.709 - 0.60	24	28	29	30	38	42	
		0.599 - 0.50	27	32	34	33	43	48	
		0.499 - 0.38	30	37	40	35	47	54	
		0.379 - 0.00	35	45	49	38	54	63	
	0.500 +	1.000 - 0.71	25	30	31	31	40	44	
		0.709 - 0.60	29	35	37	34	46	52	
		0.599 - 0.50	32	39	42	36	50	58	
		0.499 - 0.00	35	44	48	38	54	64	

OPAQUE WALL Uow

LIGHT WEIGHT WALL	MASS WALL

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.092	HC ≥ 5	22	0.10	0.13
	HC ≥ 10	22	0.11	0.15
	HC ≥ 15	22	0.12	0.16
	HC ≥ 5	63	0.090	0.12
	HC ≥ 10	63	0.10	0.13
	HC ≥ 15	63	0.11	0.14

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.092	HC ≥ 5	19	0.10	0.14
	HC ≥ 10	19	0.12	0.18
	HC ≥ 15	19	0.14	0.19
	HC ≥ 5	68	0.099	0.12
	HC ≥ 10	68	0.11	0.14
	HC ≥ 15	68	0.12	0.15

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.092	HC ≥ 5	17	0.10	0.15
	HC ≥ 10	17	0.12	0.19
	HC ≥ 15	17	0.14	0.20
	HC ≥ 5	67	0.099	0.13
	HC ≥ 10	67	0.11	0.15
	HC ≥ 15	67	0.12	0.15

Daylight Sensing Controls

	Min R-Value
WALL BELOW GRADE.	9
UNHEATED SLAB ON GRADE:	24" 36" 48"
Horizontal	16 14 10
Vertical	7 6 4

	Max Uo
ROOF:	0.052
WALL ADJACENT TO UNCOND SPACE:	0.13
FLOOR OVER UNCOND SPACE:	0.049

ALTERNATE COMPONENT PACKAGES FOR:

HDD58 = 1751 - 3200
CDD65 = 1151 - 2000
VSEW = 560 - 845

Columbia MO
Evansville IN
Lexington KY
Louisville KY
Saint Louis MO

Springfield IL
Topeka KS

TABLE 5.4-23

INTERNAL LOAD DENSITY (ILD) RANGE	PROJECTION FACTOR (PF)	SHADING COEFF RANGE (SCx)	BASE CASE Uof: 0.81 to 0.46	BASE CASE Uof: 0.45 to 0.39	BASE CASE Uof: 0.38 to 0	PERIMETER DAYLIGHTING Uof: 0.81 to 0.46	PERIMETER DAYLIGHTING Uof: 0.45 to 0	PERIMETER DAYLIGHTING Uof: 0.38 to 0
								VLT ≥ SC
0 - 1.50	0.000 - 0.249	1.000 - 0.71	17	19	19	18	20	21
		0.709 - 0.60	20	23	23	21	25	26
		0.599 - 0.50	22	26	27	24	29	31
		0.499 - 0.38	25	31	32	27	34	36
		0.379 - 0.25	30	39	41	31	42	46
		0.249 - 0.00	37	54	58	38	57	63
	0.250 - 0.499	1.000 - 0.71	21	24	25	22	27	28
		0.709 - 0.60	24	29	30	26	32	34
		0.599 - 0.50	27	34	36	28	37	40
		0.499 - 0.38	30	40	42	31	43	46
		0.379 - 0.00	35	49	52	36	52	57
	0.500 +	1.000 - 0.71	25	31	32	27	33	36
		0.709 - 0.60	29	37	39	30	40	43
		0.599 - 0.50	31	42	45	33	45	49
		0.499 - 0.00	34	48	52	36	52	57
1.51 - 3.00	0.000 - 0.249	1.000 - 0.71	14	15	15	18	21	22
		0.709 - 0.60	17	19	19	22	25	27
		0.599 - 0.50	19	22	22	25	30	32
		0.499 - 0.38	22	26	27	28	35	38
		0.379 - 0.25	27	33	35	33	44	49
		0.249 - 0.00	35	47	50	40	59	68
	0.250 - 0.499	1.000 - 0.71	18	20	20	23	27	29
		0.709 - 0.60	21	24	25	27	33	36
		0.599 - 0.50	24	28	29	30	38	42
		0.499 - 0.38	27	33	35	33	44	49
		0.379 - 0.00	32	42	44	38	54	62
	0.500 +	1.000 - 0.71	22	25	26	27	34	37
		0.709 - 0.60	25	31	32	31	41	45
		0.599 - 0.50	28	36	37	34	47	52
		0.499 - 0.00	32	41	44	37	53	61
3.01 - 3.50	0.000 - 0.249	1.000 - 0.71	12	13	13	17	19	21
		0.709 - 0.60	14	16	16	20	24	26
		0.599 - 0.50	17	19	19	23	28	31
		0.499 - 0.38	19	22	23	26	33	37
		0.379 - 0.25	24	29	30	31	41	47
		0.249 - 0.00	31	41	43	38	56	66
	0.250 - 0.499	1.000 - 0.71	15	17	17	22	25	28
		0.709 - 0.60	18	21	21	25	31	35
		0.599 - 0.50	21	24	25	28	36	40
		0.499 - 0.38	24	29	30	31	41	47
		0.379 - 0.00	29	38	38	35	51	59
	0.500 +	1.000 - 0.71	19	21	22	26	32	36
		0.709 - 0.60	22	26	27	29	38	44
		0.599 - 0.50	25	30	32	32	44	51
		0.499 - 0.00	28	36	37	35	50	59

OPAQUE WALL Uow

LIGHT WEIGHT WALL	MASS WALL

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.11	HC ≥ 5	17	0.11	0.15
	HC ≥ 10	17	0.13	0.18
	HC ≥ 15	17	0.15	0.19
	HC ≥ 5	63	0.11	0.14
	HC ≥ 10	63	0.13	0.17
	HC ≥ 15	63	0.14	0.18

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.11	HC ≥ 5	14	0.11	0.16
	HC ≥ 10	14	0.14	0.20
	HC ≥ 15	14	0.17	0.22
	HC ≥ 5	68	0.11	0.15
	HC ≥ 10	68	0.13	0.18
	HC ≥ 15	68	0.15	0.19

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.11	HC ≥ 5	12	0.11	0.16
	HC ≥ 10	12	0.14	0.21
	HC ≥ 15	12	0.17	0.23
	HC ≥ 5	66	0.11	0.15
	HC ≥ 10	66	0.13	0.18
	HC ≥ 15	66	0.15	0.19

Daylight Sensing Controls

	Min R-Value		
WALL BELOW GRADE:	9		
UNHEATED SLAB ON GRADE:	24"	36"	48"
Horizontal	15	13	10
Vertical	7	6	4

	Max Uo
ROOF:	0.056
WALL ADJACENT TO UNCOND SPACE:	0.15
FLOOR OVER UNCOND SPACE:	0.058

ALTERNATE COMPONENT PACKAGES FOR:

HDD65 = 1751 - 3200
CDD65 = 1151 - 2000
VSEW = > 845

Dodge City KS
Grand Junction CO

TABLE 5.4-24

INTERNAL LOAD DENSITY (ILD) RANGE	PROJECTION FACTOR (PF)	SHADING COEFF RANGE (SCx)	BASE CASE Uof 0.81 to 0.46	BASE CASE Uof 0.45 to 0.39	BASE CASE Uof 0.38 to 0	PERIMETER DAYLIGHTING Uof 0.81 to 0.46	PERIMETER DAYLIGHTING Uof 0.45 to 0	PERIMETER DAYLIGHTING Uof 0.38 to 0
								VLT ≥ SC
0 - 1.50	0.000 - 0.249	1.000 - 0.71	15	17	17	18	19	19
		0.709 - 0.60	18	21	21	19	23	24
		0.599 - 0.50	20	24	25	21	28	28
		0.499 - 0.38	22	28	30	23	30	32
		0.379 - 0.25	26	35	38	27	37	41
		0.249 - 0.00	31	47	52	32	49	56
	0.250 - 0.499	1.000 - 0.71	19	22	23	20	24	25
		0.709 - 0.60	22	27	28	23	29	31
		0.599 - 0.50	24	31	33	25	33	36
		0.499 - 0.38	26	36	38	27	38	41
		0.379 - 0.00	30	44	47	31	46	51
	0.500 +	1.000 - 0.71	22	28	29	23	30	32
		0.709 - 0.60	25	34	35	26	36	39
		0.599 - 0.50	28	38	41	28	40	44
		0.499 - 0.00	30	43	47	31	46	51
1.51 - 3.00	0.000 - 0.249	1.000 - 0.71	12	13	14	16	18	20
		0.709 - 0.60	15	17	17	19	22	24
		0.599 - 0.50	17	20	20	21	26	28
		0.499 - 0.38	19	23	24	23	30	34
		0.379 - 0.25	23	29	31	27	37	42
		0.249 - 0.00	30	41	44	33	50	58
	0.250 - 0.499	1.000 - 0.71	16	18	18	20	24	26
		0.709 - 0.60	18	22	22	23	28	32
		0.599 - 0.50	21	25	26	25	33	37
		0.499 - 0.38	23	30	31	27	38	43
		0.379 - 0.00	28	37	39	31	46	53
	0.500 +	1.000 - 0.71	19	23	23	23	30	33
		0.709 - 0.60	22	27	29	26	35	40
		0.599 - 0.50	25	32	33	29	40	45
		0.499 - 0.00	27	37	39	31	45	53
3.01 - 3.50	0.000 - 0.249	1.000 - 0.71	11	11	12	15	17	19
		0.709 - 0.60	13	14	14	17	21	23
		0.599 - 0.50	15	17	17	20	24	27
		0.499 - 0.38	17	20	20	22	28	32
		0.379 - 0.25	21	25	27	26	35	41
		0.249 - 0.00	27	36	38	31	47	56
	0.250 - 0.499	1.000 - 0.71	14	15	15	18	22	25
		0.709 - 0.60	16	19	19	21	27	30
		0.599 - 0.50	18	22	22	23	31	35
		0.499 - 0.38	21	26	27	26	35	41
		0.379 - 0.00	25	32	34	29	43	51
	0.500 +	1.000 - 0.71	17	19	20	22	28	32
		0.709 - 0.60	19	24	24	25	33	38
		0.599 - 0.50	22	27	28	27	38	44
		0.499 - 0.00	24	32	33	29	43	50

OPAQUE WALL Uow

LIGHT WEIGHT WALL	MASS WALL

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.097	HC ≥ 5	15	0.10	0.14
	HC ≥ 10	15	0.12	0.16
	HC ≥ 15	15	0.13	0.17
	HC ≥ 5	50	0.10	0.13
	HC ≥ 10	50	0.11	0.15
	HC ≥ 15	50	0.13	0.16

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.097	HC ≥ 5	12	0.10	0.14
	HC ≥ 10	12	0.12	0.16
	HC ≥ 15	12	0.14	0.19
	HC ≥ 5	50	0.10	0.14
	HC ≥ 10	50	0.12	0.16
	HC ≥ 15	50	0.13	0.17

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.097	HC ≥ 5	11	0.10	0.15
	HC ≥ 10	11	0.12	0.18
	HC ≥ 15	11	0.15	0.20
	HC ≥ 5	50	0.10	0.14
	HC ≥ 10	50	0.12	0.17
	HC ≥ 15	50	0.14	0.18

Daylight Sensing Controls

	Min R-Value
WALL BELOW GRADE:	9

UNHEATED SLAB ON GRADE:	24"	36"	48"
Horizontal	16	13	10
Vertical	7	6	4

	Max Uo
ROOF:	0.053
WALL ADJACENT TO UNCOND SPACE:	0.14
FLOOR OVER UNCOND SPACE:	0.055

ALTERNATE COMPONENT PACKAGES FOR:

HDD58 = 3281 - 4000
CDD65 = 0 - 1150
VSEW = 580 - 845

Albany NY
Buffalo NY
Concord NH
Des Moines IA
Grand Island NE
Grand Rapids MI
Great Falls MT
Milwaukee WI
Missoula MT
Portland ME
Rapid City SD
Rochester NY
Sheridan WY
Sioux City IA
Syracuse NY

TABLE 5.4-25

INTERNAL LOAD DENSITY (ILD) RANGE	PROJECTION FACTOR (PF)	SHADING COEFF RANGE (SCx)	BASE CASE Uof 0.60 to 0.46	BASE CASE Uof 0.45 to 0.29	BASE CASE Uof 0.28 to 0	PERIMETER DAYLIGHTING N/A	PERIMETER DAYLIGHTING VLT ≥ SC
0 - 1.50	0.000 - 0.249	1.000 - 0.71	20	27	32		
		0.709 - 0.60	21	30	38		
		0.599 - 0.50	21	31	44		
		0.499 - 0.38	21	33	49		
		0.379 - 0.25	22	35	57		
		0.249 - 0.00	22	38	64		
	0.250 - 0.499	1.000 - 0.71	21	31	41		
		0.709 - 0.60	22	34	48		
		0.599 - 0.50	22	35	54		
		0.499 - 0.38	22	36	58		
		0.379 - 0.00	22	36	64		
	0.500 +	1.000 - 0.71	22	35	51		
		0.709 - 0.60	23	36	57		
		0.599 - 0.50	22	37	62		
		0.499 - 0.00	22	37	65		
1.51 - 3.00	0.000 - 0.249	1.000 - 0.71	19	24	27		
		0.709 - 0.60	21	27	33		
		0.599 - 0.50	22	30	38		
		0.499 - 0.38	23	32	43		
		0.379 - 0.25	24	36	52		
		0.249 - 0.00	26	40	64		
	0.250 - 0.499	1.000 - 0.71	22	29	35		
		0.709 - 0.60	23	32	42		
		0.599 - 0.50	24	34	47		
		0.499 - 0.38	25	37	53		
		0.379 - 0.00	26	39	61		
	0.500 +	1.000 - 0.71	23	33	44		
		0.709 - 0.60	25	36	51		
		0.599 - 0.50	25	38	56		
		0.499 - 0.00	26	40	62		
3.01 - 3.50	0.000 - 0.249	1.000 - 0.71	18	22	24		
		0.709 - 0.60	20	25	30		
		0.599 - 0.50	21	28	34		
		0.499 - 0.38	22	31	40		
		0.379 - 0.25	24	35	49		
		0.249 - 0.00	26	39	61		
	0.250 - 0.499	1.000 - 0.71	21	27	32		
		0.709 - 0.60	22	30	38		
		0.599 - 0.50	23	33	43		
		0.499 - 0.38	24	35	49		
		0.379 - 0.00	26	38	58		
	0.500 +	1.000 - 0.71	23	31	40		
		0.709 - 0.60	24	34	47		
		0.599 - 0.50	25	36	52		
		0.499 - 0.00	26	39	58		

OPAQUE WALL Uow

LIGHT WEIGHT WALL	MASS WALL

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.074	HC ≥ 5	20	0.076	0.096
	HC ≥ 10	20	0.082	0.10
	HC ≥ 15	20	0.087	0.11
	HC ≥ 5	65	0.077	0.098
	HC ≥ 10	65	0.084	0.11
	HC ≥ 15	65	0.089	0.11

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.074	HC ≥ 5	19	0.077	0.10
	HC ≥ 10	19	0.084	0.12
	HC ≥ 15	19	0.091	0.12
	HC ≥ 5	64	0.077	0.10
	HC ≥ 10	64	0.084	0.11
	HC ≥ 15	64	0.091	0.12

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.074	HC ≥ 5	18	0.077	0.10
	HC ≥ 10	18	0.086	0.12
	HC ≥ 15	18	0.093	0.13
	HC ≥ 5	61	0.077	0.10
	HC ≥ 10	61	0.085	0.12
	HC ≥ 15	61	0.092	0.12

Daylight Sensing Controls

	Min R-Value		
WALL BELOW GRADE:	10		
UNHEATED SLAB ON GRADE:	24"	36"	48"
Horizontal	18	15	11
Vertical	8	6	4

	Max Uo
ROOF:	0.049
WALL ADJACENT TO UNCOND SPACE:	0.12
FLOOR OVER UNCOND SPACE:	0.041

ALTERNATE COMPONENT PACKAGES FOR:

HDD65 = 4001 - 5000
CDD65 = 0 - 1150
VSEW = 500 - 845

Alpena MI
Bangor ME
Burlington VT
Cutbank MT
Eau Claire WI
Greenbay WI
Huron SD
Madison WI
Mason City IA
Massena NY
Miles City MT
Minneapolis MN
Pierre SD
Rochester NY
Sioux Falls SD

TABLE 5.4-28

INTERNAL LOAD DENSITY (ILD) RANGE	PROJECTION FACTOR (PF)	SHADING COEFF RANGE (SCx)	BASE CASE Uof: 0.60 to 0.46	0.45 to 0.29	0.28 to 0	PERIMETER DAYLIGHTING N/A	VLT ≥ SC
0 - 1.50	0.000 - 0.249	1.000 - 0.71	19	26	31		
		0.709 - 0.60	21	29	37		
		0.599 - 0.50	21	31	42		
		0.499 - 0.38	22	33	48		
		0.379 - 0.25	22	35	55		
		0.249 - 0.00	22	36	62		
	0.250 - 0.499	1.000 - 0.71	21	31	48		
		0.709 - 0.60	22	33	47		
		0.599 - 0.50	22	34	52		
		0.499 - 0.38	22	35	56		
		0.379 - 0.00	23	36	62		
	0.500 +	1.000 - 0.71	22	34	49		
		0.709 - 0.60	23	36	55		
		0.599 - 0.50	23	36	59		
		0.499 - 0.00	23	37	63		
1.51 - 3.00	0.000 - 0.249	1.000 - 0.71	18	23	26		
		0.709 - 0.60	20	26	31		
		0.599 - 0.50	21	29	36		
		0.499 - 0.38	22	31	42		
		0.379 - 0.25	24	35	50		
		0.249 - 0.00	25	39	61		
	0.250 - 0.499	1.000 - 0.71	21	28	33		
		0.709 - 0.60	22	31	40		
		0.599 - 0.50	23	33	45		
		0.499 - 0.38	24	35	50		
		0.379 - 0.00	25	38	58		
	0.500 +	1.000 - 0.71	23	32	41		
		0.709 - 0.60	24	35	48		
		0.599 - 0.50	25	36	53		
		0.499 - 0.00	25	38	58		
3.01 - 3.50	0.000 - 0.249	1.000 - 0.71	17	21	23		
		0.709 - 0.60	19	24	29		
		0.599 - 0.50	20	27	33		
		0.499 - 0.38	22	30	38		
		0.379 - 0.25	24	33	46		
		0.249 - 0.00	26	38	58		
	0.250 - 0.499	1.000 - 0.71	20	26	36		
		0.709 - 0.60	22	29	37		
		0.599 - 0.50	23	31	41		
		0.499 - 0.38	24	34	47		
		0.379 - 0.00	25	37	55		
	0.500 +	1.000 - 0.71	22	30	38		
		0.709 - 0.60	23	33	44		
		0.599 - 0.50	24	35	50		
		0.499 - 0.00	25	37	55		

OPAQUE WALL Uow: LIGHT WEIGHT WALL / MASS WALL

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.069	HC ≥ 5	19	0.070	0.085
	HC ≥ 10	19	0.074	0.094
	HC ≥ 15	19	0.078	0.096
	HC ≥ 5	63	0.071	0.087
	HC ≥ 10	63	0.075	0.096
	HC ≥ 15	63	0.079	0.099

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.069	HC ≥ 5	18	0.071	0.090
	HC ≥ 10	18	0.076	0.10
	HC ≥ 15	18	0.080	0.10
	HC ≥ 5	61	0.076	0.089
	HC ≥ 10	61	0.075	0.10
	HC ≥ 15	61	0.079	0.10

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.069	HC ≥ 5	17	0.071	0.092
	HC ≥ 10	17	0.077	0.10
	HC ≥ 15	17	0.082	0.10
	HC ≥ 5	58	0.070	0.091
	HC ≥ 10	58	0.076	0.10
	HC ≥ 15	58	0.080	0.10

Daylight Sensing Controls

	Min R-Value		
WALL BELOW GRADE:	11		
UNHEATED SLAB ON GRADE:	24"	36"	48"
Horizontal	18	15	11
Vertical	8	6	4

	Max Uo
ROOF:	0.045
WALL ADJACENT TO UNCOND SPACE:	0.11
FLOOR OVER UNCOND SPACE:	0.048

ALTERNATE COMPONENT PACKAGES FOR:

HDD65 = 3201 - 4000
CDD65 = 0 - 1150
VSEW = > 845

Casper WY
Cheyenne WY
Elko NV
Ely NV
North Platte NE

Pocatello ID
Scottsbluff NE

TABLE 5.4-27

Uof

INTERNAL LOAD DENSITY (ILD) RANGE	PROJECTION FACTOR (PF)	SHADING COEFF RANGE (SCx)	BASE CASE Uof 0.60 to 0.46	BASE CASE Uof 0.45 to 0.29	BASE CASE Uof 0.28 to 0	PERIMETER DAYLIGHTING Uof 0.60 to 0.46	PERIMETER DAYLIGHTING Uof 0.45 to 0	PERIMETER DAYLIGHTING Uof 0.28 to 0 (VLT ≥ SC)
0 - 1.50	0.000 - 0.249	1.000 - 0.71	19	26	30	19	26	32
		0.709 - 0.60	20	28	36	19	29	38
		0.599 - 0.50	20	30	41	19	30	43
		0.499 - 0.38	20	32	46	19	31	48
		0.379 - 0.25	20	33	53	19	32	54
		0.249 - 0.00	20	33	60	19	32	57
	0.250 - 0.499	1.000 - 0.71	21	31	39	20	31	42
		0.709 - 0.60	21	33	46	20	32	49
		0.599 - 0.50	21	34	51	20	33	53
		0.499 - 0.38	21	34	56	20	33	57
		0.379 - 0.00	21	34	61	20	33	60
	0.500 +	1.000 - 0.71	22	34	49	21	34	52
		0.709 - 0.60	22	35	55	20	34	58
		0.599 - 0.50	21	36	60	20	34	61
		0.499 - 0.00	21	36	63	20	34	62
1.51 - 3.00	0.000 - 0.249	1.000 - 0.71	18	22	24	20	27	32
		0.709 - 0.60	20	25	30	21	30	38
		0.599 - 0.50	21	28	34	22	32	44
		0.499 - 0.38	22	31	40	23	34	49
		0.379 - 0.25	23	34	48	23	36	57
		0.249 - 0.00	25	38	59	24	38	64
	0.250 - 0.499	1.000 - 0.71	21	27	32	22	32	42
		0.709 - 0.60	22	30	38	23	34	49
		0.599 - 0.50	23	33	43	23	36	55
		0.499 - 0.38	24	35	49	24	37	60
		0.379 - 0.00	25	38	57	24	38	65
	0.500 +	1.000 - 0.71	23	32	40	23	36	52
		0.709 - 0.60	24	35	47	24	37	59
		0.599 - 0.50	25	36	52	24	38	64
		0.499 - 0.00	25	38	58	24	39	67
3.01 - 3.50	0.000 - 0.249	1.000 - 0.71	16	19	21	20	26	31
		0.709 - 0.60	18	23	26	21	30	38
		0.599 - 0.50	20	25	30	22	32	43
		0.499 - 0.38	21	28	35	23	34	49
		0.379 - 0.25	23	32	43	24	36	57
		0.249 - 0.00	25	36	55	25	38	64
	0.250 - 0.499	1.000 - 0.71	19	24	28	22	31	41
		0.709 - 0.60	21	28	34	23	34	48
		0.599 - 0.50	22	30	39	23	35	54
		0.499 - 0.38	23	33	44	24	37	59
		0.379 - 0.00	24	36	52	25	38	65
	0.500 +	1.000 - 0.71	21	29	36	23	35	51
		0.709 - 0.60	23	32	42	24	37	58
		0.599 - 0.50	24	34	47	24	38	63
		0.499 - 0.00	24	36	53	25	39	66

OPAQUE WALL Uow

LIGHT WEIGHT WALL	MASS WALL

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.073	HC ≥ 5	19	0.070	0.10
	HC ≥ 10	19	0.085	0.12
	HC ≥ 15	19	0.092	0.12
	HC ≥ 5	63	0.070	0.10
	HC ≥ 10	63	0.086	0.12
	HC ≥ 15	63	0.095	0.13

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.073	HC ≥ 5	18	0.077	0.11
	HC ≥ 10	18	0.088	0.13
	HC ≥ 15	18	0.098	0.14
	HC ≥ 5	67	0.070	0.10
	HC ≥ 10	67	0.087	0.12
	HC ≥ 15	67	0.096	0.13

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.073	HC ≥ 5	16	0.077	0.11
	HC ≥ 10	16	0.089	0.14
	HC ≥ 15	16	0.10	0.15
	HC ≥ 5	66	0.077	0.10
	HC ≥ 10	66	0.086	0.12
	HC ≥ 15	66	0.095	0.13

Daylight Sensing Controls

	Min R-Value
WALL BELOW GRADE:	10

UNHEATED SLAB ON GRADE:	24"	36"	48"
Horizontal	18	15	11
Vertical	8	6	4

	Max Uo
ROOF:	0.049
WALL ADJACENT TO UNCOND SPACE:	0.12
FLOOR OVER UNCOND SPACE:	0.042

ALTERNATE COMPONENT PACKAGES FOR:

HDD65 = 4001 - 5000
CDD65 = 0 - 1150
VSEW = > 845

Bryce UT
Eagle CO
Rock Springs WY

TABLE 5.4-28

INTERNAL LOAD DENSITY (ILD) RANGE	PROJECTION FACTOR (PF)	SHADING COEFF RANGE (SCx)	BASE CASE Uof: 0.60 to 0.46	BASE CASE Uof: 0.45 to 0.29	BASE CASE Uof: 0.28 to 0	PERIMETER DAYLIGHTING: N/A	PERIMETER DAYLIGHTING: VLT ≥ SC
0 - 1.50	0.000 - 0.249	1.000 - 0.71	16	30	46		
		0.709 - 0.60	14	29	47		
		0.599 - 0.50	13	27	51		
		0.499 - 0.38	11	24	53		
		0.379 - 0.25	10	20	51		
		0.249 - 0.00	8	16	40		
	0.250 - 0.499	1.000 - 0.71	15	31	51		
		0.709 - 0.60	13	28	56		
		0.599 - 0.50	11	25	57		
		0.499 - 0.38	10	22	56		
		0.379 - 0.00	9	18	48		
	0.500 +	1.000 - 0.71	13	30	59		
		0.709 - 0.60	11	25	60		
		0.599 - 0.50	10	22	58		
		0.499 - 0.00	9	19	53		
1.51 - 3.00	0.000 - 0.249	1.000 - 0.71	17	26	32		
		0.709 - 0.60	17	27	38		
		0.599 - 0.50	17	28	42		
		0.499 - 0.38	17	28	46		
		0.379 - 0.25	16	27	49		
		0.249 - 0.00	15	26	49		
	0.250 - 0.499	1.000 - 0.71	18	29	41		
		0.709 - 0.60	17	29	46		
		0.599 - 0.50	17	29	49		
		0.499 - 0.38	16	28	51		
		0.379 - 0.00	16	27	52		
	0.500 +	1.000 - 0.71	18	30	49		
		0.709 - 0.60	17	30	52		
		0.599 - 0.50	17	29	54		
		0.499 - 0.00	16	28	54		
3.01 - 3.50	0.000 - 0.249	1.000 - 0.71	17	24	29		
		0.709 - 0.60	17	25	34		
		0.599 - 0.50	17	26	38		
		0.499 - 0.38	17	27	42		
		0.379 - 0.25	17	27	46		
		0.249 - 0.00	16	27	49		
	0.250 - 0.499	1.000 - 0.71	18	27	37		
		0.709 - 0.60	18	28	42		
		0.599 - 0.50	17	28	45		
		0.499 - 0.38	17	28	48		
		0.379 - 0.00	17	28	50		
	0.500 +	1.000 - 0.71	18	29	44		
		0.709 - 0.60	18	29	48		
		0.599 - 0.50	17	29	51		
		0.499 - 0.00	17	29	52		

OPAQUE WALL Uow: LIGHT WEIGHT WALL / MASS WALL

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.064	HC ≥ 5	10	0.065	0.086
	HC ≥ 10	10	0.070	0.10
	HC ≥ 15	10	0.075	0.10
	HC ≥ 5	60	0.066	0.10
	HC ≥ 10	60	0.074	0.12
	HC ≥ 15	60	0.083	0.13

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.064	HC ≥ 5	17	0.066	0.093
	HC ≥ 10	17	0.072	0.11
	HC ≥ 15	17	0.079	0.11
	HC ≥ 5	54	0.066	0.094
	HC ≥ 10	54	0.073	0.11
	HC ≥ 15	54	0.080	0.12

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.064	HC ≥ 5	17	0.066	0.095
	HC ≥ 10	17	0.073	0.11
	HC ≥ 15	17	0.080	0.12
	HC ≥ 5	52	0.066	0.096
	HC ≥ 10	52	0.073	0.11
	HC ≥ 15	52	0.080	0.12

Daylight Sensing Controls

	Min R-Value		
WALL BELOW GRADE:	11		
UNHEATED SLAB ON GRADE:	24"	36"	48"
Horizontal	18	15	11
Vertical	8	6	4

	Max Uo
ROOF:	0.045
WALL ADJACENT TO UNCOND SPACE:	0.11
FLOOR OVER UNCOND SPACE:	0.048

ALTERNATE COMPONENT PACKAGES FOR:

HDD65 = 5001 - 8500
CDD65 = 0 - 1150
VSEW = 500 - 845

Bismarck ND
Caribou ME
Duluth MN
Fargo ND
Glasgow MT
International Falls MN
Minot ND
Sault Sainte Marie MI

TABLE 5.4-29

INTERNAL LOAD DENSITY (ILD) RANGE	PROJECTION FACTOR (PF)	SHADING COEFF RANGE (SCx)	BASE CASE Uof 0.60 to 0.46	BASE CASE Uof 0.45 to 0.29	BASE CASE Uof 0.28 to 0	PERIMETER DAYLIGHTING N/A	PERIMETER DAYLIGHTING VLT ≥ SC
0 - 1.50	0.000 - 0.249	1.000 - 0.71	19	28	37		
		0.709 - 0.60	19	30	43		
		0.599 - 0.50	19	31	47		
		0.499 - 0.38	19	31	51		
		0.379 - 0.25	18	31	55		
		0.249 - 0.00	18	30	57		
	0.250 - 0.499	1.000 - 0.71	20	31	46		
		0.709 - 0.60	19	32	51		
		0.599 - 0.50	19	32	55		
		0.499 - 0.38	19	32	57		
		0.379 - 0.00	18	31	59		
	0.500 +	1.000 - 0.71	20	33	53		
		0.709 - 0.60	19	33	58		
		0.599 - 0.50	19	32	59		
		0.499 - 0.00	19	32	60		
1.51 - 3.00	0.000 - 0.249	1.000 - 0.71	18	25	31		
		0.709 - 0.60	19	28	36		
		0.599 - 0.50	20	29	41		
		0.499 - 0.38	20	31	46		
		0.379 - 0.25	21	33	52		
		0.249 - 0.00	21	34	58		
	0.250 - 0.499	1.000 - 0.71	20	29	39		
		0.709 - 0.60	21	31	45		
		0.599 - 0.50	21	32	49		
		0.499 - 0.38	21	33	53		
		0.379 - 0.00	21	34	58		
	0.500 +	1.000 - 0.71	21	32	46		
		0.709 - 0.60	21	33	52		
		0.599 - 0.50	21	34	55		
		0.499 - 0.00	22	34	58		
3.01 - 3.50	0.000 - 0.249	1.000 - 0.71	18	24	28		
		0.709 - 0.60	19	27	34		
		0.599 - 0.50	20	29	39		
		0.499 - 0.38	21	30	44		
		0.379 - 0.25	21	33	50		
		0.249 - 0.00	22	35	50		
	0.250 - 0.499	1.000 - 0.71	20	28	36		
		0.709 - 0.60	21	30	42		
		0.599 - 0.50	21	32	47		
		0.499 - 0.38	22	33	51		
		0.379 - 0.00	22	35	57		
	0.500 +	1.000 - 0.71	21	31	44		
		0.709 - 0.60	22	33	50		
		0.599 - 0.50	22	34	53		
		0.499 - 0.00	22	35	57		

OPAQUE WALL Uow

LIGHT WEIGHT WALL	MASS WALL

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.064	HC ≥ 5	10	0.065	0.077
	HC ≥ 10	10	0.068	0.083
	HC ≥ 15	10	0.070	0.085
	HC ≥ 5	60	0.066	0.078
	HC ≥ 10	60	0.068	0.085
	HC ≥ 15	60	0.070	0.087

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.064	HC ≥ 5	10	0.065	0.081
	HC ≥ 10	10	0.069	0.090
	HC ≥ 15	10	0.072	0.093
	HC ≥ 5	50	0.065	0.081
	HC ≥ 10	50	0.068	0.089
	HC ≥ 15	50	0.072	0.092

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.064	HC ≥ 5	10	0.065	0.083
	HC ≥ 10	10	0.069	0.092
	HC ≥ 15	10	0.073	0.096
	HC ≥ 5	50	0.065	0.082
	HC ≥ 10	50	0.069	0.091
	HC ≥ 15	50	0.072	0.094

Daylight Sensing Controls

	Min. R-Value		
WALL BELOW GRADE:	12		
UNHEATED SLAB ON GRADE:	24"	36"	48"
Horizontal	10	15	11
Vertical	8	6	4

	Max Uo
ROOF:	0.041
WALL ADJACENT TO UNCOND SPACE:	0.10
FLOOR OVER UNCOND SPACE:	0.040

ALTERNATE COMPONENT PACKAGES FOR:

HDD50 = 1 - 6500
CDD65 = < 100
VSEW = < 500

Adak AK
Anchorage AK
Annette AK
Juneau AK
Kodiak AK
Yakutat AK

TABLE 5.4-38

INTERNAL LOAD DENSITY (ILD) RANGE	PROJECTION FACTOR (PF)	SHADING COEFF RANGE (SCx)	BASE CASE Uof 0.60 to 0.45	BASE CASE Uof 0.45 to 0.29	BASE CASE Uof 0.28 to 0	PERIMETER DAYLIGHTING N/A	PERIMETER DAYLIGHTING VLT ≥ SC	OPAQUE WALL Uow LIGHT WEIGHT WALL
0 - 1.50	0.000 - 0.249	1.000 - 0.71	17	29	45			
		0.709 - 0.60	16	29	50			
		0.599 - 0.50	15	28	53			
		0.499 - 0.38	14	27	55			
		0.379 - 0.25	13	25	53			
		0.249 - 0.00	12	22	46			
	0.250 - 0.499	1.000 - 0.71	16	30	53			
		0.709 - 0.60	15	28	56			
		0.599 - 0.50	14	27	57			
		0.499 - 0.38	14	25	56			
		0.379 - 0.00	13	23	52			
	0.500 +	1.000 - 0.71	15	29	58			
		0.709 - 0.60	14	27	58			
		0.599 - 0.50	14	25	57			
		0.499 - 0.00	13	24	54			
1.51 - 3.00	0.000 - 0.249	1.000 - 0.71	17	27	39			
		0.709 - 0.60	17	28	44			
		0.599 - 0.50	17	28	48			
		0.499 - 0.38	16	28	50			
		0.379 - 0.25	16	27	52			
		0.249 - 0.00	15	26	51			
	0.250 - 0.499	1.000 - 0.71	17	29	47			
		0.709 - 0.60	17	29	51			
		0.599 - 0.50	16	28	53			
		0.499 - 0.38	16	28	54			
		0.379 - 0.00	15	27	53			
	0.500 +	1.000 - 0.71	17	29	53			
		0.709 - 0.60	16	29	55			
		0.599 - 0.50	16	28	55			
		0.499 - 0.00	16	27	55			
3.01 - 3.50	0.000 - 0.249	1.000 - 0.71	20	30	41			
		0.709 - 0.60	20	31	47			
		0.599 - 0.50	19	32	51			
		0.499 - 0.38	19	32	55			
		0.379 - 0.25	19	32	58			
		0.249 - 0.00	18	31	59			
	0.250 - 0.499	1.000 - 0.71	20	32	58			
		0.709 - 0.60	20	33	55			
		0.599 - 0.50	19	33	58			
		0.499 - 0.38	19	32	60			
		0.379 - 0.00	19	32	61			
	0.500 +	1.000 - 0.71	20	33	57			
		0.709 - 0.60	19	33	60			
		0.599 - 0.50	19	33	62			
		0.499 - 0.00	19	32	62			

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.060	HC ≥ 5	17	0.066	0.071
	HC ≥ 10	17	0.069	0.075
	HC ≥ 15	17	0.071	0.078
	HC ≥ 5	50	0.067	0.073
	HC ≥ 10	50	0.069	0.078
	HC ≥ 15	50	0.072	0.080

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.060	HC ≥ 5	17	0.066	0.074
	HC ≥ 10	17	0.070	0.082
	HC ≥ 15	17	0.073	0.084
	HC ≥ 5	55	0.066	0.075
	HC ≥ 10	55	0.070	0.082
	HC ≥ 15	55	0.073	0.084

Uow (HC<5)	HC RANGE	PCT FEN	INT INS	EXT INS
0.060	HC ≥ 5	20	0.066	0.076
	HC ≥ 10	20	0.070	0.084
	HC ≥ 15	20	0.073	0.087
	HC ≥ 5	62	0.068	0.076
	HC ≥ 10	62	0.070	0.084
	HC ≥ 15	62	0.074	0.087

Daylight Sensing Controls

	Min R-Value		
WALL BELOW GRADE:	12		
UNHEATED SLAB ON GRADE:	24"	36"	48"
Horizontal	18	15	11
Vertical	8	6	4

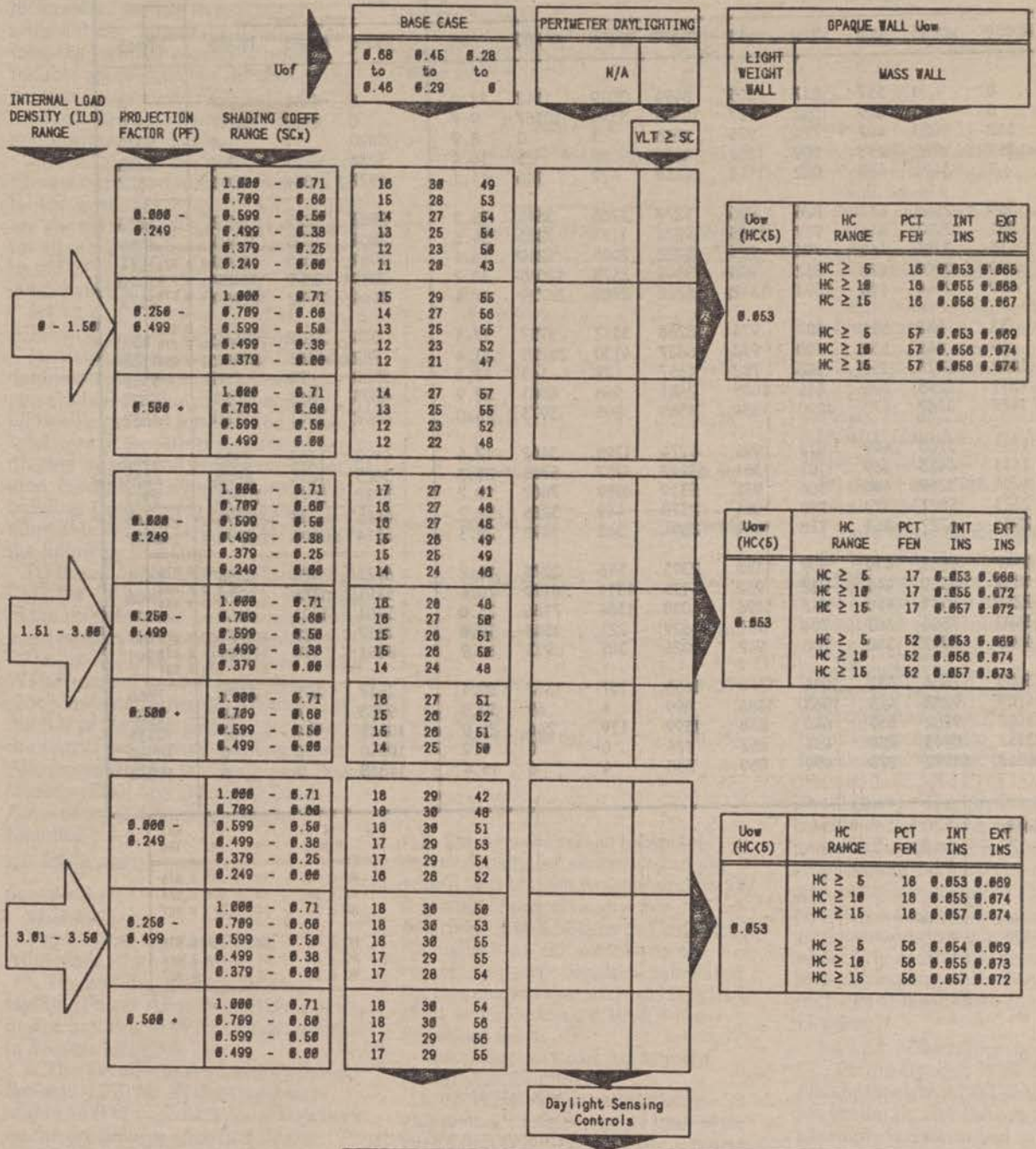
	Max Uo
ROOF:	0.041
WALL ADJACENT TO UNCOND SPACE:	0.10
FLOOR OVER UNCOND SPACE:	0.040

ALTERNATE COMPONENT PACKAGES FOR:

HDD50 = > 8500
CDD65 = < 100
VSEW = < 500

Bethel AK
Big Delta AK
Fairbanks AK
Gulkana AK
King Salmon AK
McGrath AK
Nome AK
Summit AK

TABLE 5.4-31



	Min R-Value		
WALL BELOW GRADE:	15		
UNHEATED SLAB ON GRADE:	24"	36"	48"
Horizontal	18	15	11
Vertical	8	8	4

	Max Uo
ROOF:	0.031
WALL ADJACENT TO UNCOND SPACE:	0.057
FLOOR OVER UNCOND SPACE:	0.040

Table 5.4-32
Climate Data Used for ACP Tables

ACP TABLE	Exterior Facades									Roof			Wall, Floor, Slab
	HDD50	HDD65	VSN	VSEW	VSS	CDD50	CDD65	CDH80	DR	HDD65	CDD65	CDH80	HDD65
5.4-2	0	0	557	817	805	8494	3019	1112	11.0	0	4150	4537	0
5.4-3	0	0	609	1002	977	10869	5394	10167	9.7	0	6160	16217	0
5.4-4	582	5020	407	724	926	1038	1	0	8.9	5020	1	0	5020
5.4-5	157	2922	453	909	1102	2792	82	23	16.4	3238	73	204	3238
5.4-6	3	1494	482	962	1146	4456	472	136	14.1	1577	834	2391	1577
5.4-7	569	2556	461	826	996	5277	1788	3614	15.2	2882	1825	6272	3220
5.4-8	381	2753	444	987	1185	4274	1171	7315	34.6	2884	1930	14404	2884
5.4-9	435	2194	467	796	925	5722	2005	5249	16.4	3091	2055	8450	3091
5.4-10	699	2708	476	862	996	5844	2378	12065	20.2	3049	2299	14487	3049
5.4-11	409	2444	468	1091	1312	6222	2782	26739	27.4	2444	2782	26739	2573
5.4-12	33	532	511	881	974	8288	3312	9757	17.1	874	3652	15512	889
5.4-13	65	842	532	900	936	8827	4130	25225	21.4	782	4186	37892	1382
5.4-14	1080	5226	350	588	782	1357	29	145	12.3	5550	79	466	5550
5.4-15	1531	4893	405	814	1005	2681	568	4081	32.9	4893	568	4081	4893
5.4-16	1477	4462	473	1090	1334	3385	895	3973	24.0	4802	1041	11568	4802
5.4-17	1261	3760	449	810	994	4274	1298	3642	17.4	4192	1183	3306	4192
5.4-18	1633	4423	469	1105	1361	3942	1257	5705	25.3	3825	1834	8878	4423
5.4-19	1034	3259	460	806	935	5319	2069	7807	19.2	3732	2072	10065	3732
5.4-20	2323	5877	373	790	1091	2370	449	3285	31.2	6665	228	2390	6665
5.4-21	2983	6727	363	758	1064	2094	363	1595	25.3	6514	698	1794	6727
5.4-22	1947	5583	419	909	1153	2395	556	2073	16.2	6471	486	6366	6471
5.4-23	1839	4509	446	812	982	4115	1311	4170	20.4	5201	1388	5212	5448
5.4-24	2280	5131	450	942	1196	4008	1384	7186	26.0	5701	1221	6147	5701
5.4-25	3492	7560	363	704	957	1629	221	1513	30.8	7817	328	1771	7817
5.4-26	4583	8397	380	708	942	2026	365	913	20.9	8351	774	3739	8941
5.4-27	3683	7666	432	1014	1350	1650	157	1317	30.1	7617	495	2699	7666
5.4-28	4709	9288	445	1063	1386	899	4	69	30.0	9288	4	69	9288
5.4-29	5087	9282	359	640	858	1399	119	246	21.0	10535	119	167	10535
5.4-30	3562	8913	280	434	652	124	0	0	9.9	10540	0	0	10540
5.4-31	6843	11992	270	499	860	330	4	6	15.4	14868	3	0	14868

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(b) From the list of cities in Appendix 5A, "List of Cities and Climate Data", which contains data for 234 cities, select the closest city climatologically to the building site. If the site is not one of the cities listed or if the climate at the site differs significantly from a listed adjacent city, obtain the information from the weather bureau or other reliable source and use (a) above. The column designated "ACP Table No." contains the table number of the appropriate ACP Table.

(c) For information purposes only, the climate data used to develop the ACP tables for the above-grade wall section are shown in Table 5.4–32. The criteria for all other envelope sections was based on the most stringent level for the cities listed in the ACP Table.

5.4.3.2.2 Determination of Maximum Allowable Percent Fenestration.

(a) Using the appropriate ACP Table, determine the maximum allowable percent fenestration. The maximum allowable percent fenestration is the total area of fenestration assemblies divided by the total gross exterior wall area, considering all elevations of the building. Determining the maximum allowable percent fenestration requires the following five steps:

(1) Based on the Internal Load Density (ILD) for the proposed design, select one of the three Internal Load Ranges as the point of entry to the tables. Note for ILD's greater than 3.5 W/ft ^{2} use the 3.5 W/ft ^{2} range. For shell buildings, see procedures in Section 5.3.8. Determine the ILD of the proposed design, based on the sum of the Internal Lighting Power Allowance (ILPA), the Equipment Power Density (EPD) and Occupant Load Adjustment (OLA), as shown in Equation 5.4–1.

$$ILD = ILPA + EPD + OLA$$

Equation 5.4–1

Where:

The Internal Lighting Power Allowance (ILPA) shall be:

1. The building average Internal Lighting Power Allowance (ILPA) of the design building in W/ft ^{2} as determined in Section 3.4 or 3.5;

2. The average of the Lighting Power Budgets (LPB) for all activity areas within 15 ft of each exterior wall based on the procedures specified by the Systems Performance Criteria of Section 3.5.3, or

3. The actual lighting power density of the proposed design in W/ft ^{2}, either the building average or the average of the lighting power within 15 ft of each exterior wall.

Note.—The lighting prescriptive path, Section 3.4, does not provide lighting values for health, assembly, multi-family high rise, and hotel/motel buildings type occupancies. Use the 1.51 to 3.0 range of Internal Load Density for health and assembly buildings; and the 0 to 1.5 range for multi-family high rise and hotel/motel buildings.

The Equipment Power Density (EPD) shall be either:

1. The building average receptacle power density selected from Table 5.4–33 in W/ft ^{2}; or

Table 5.4-33

Average Receptacle Power Densities

BUILDING TYPE	W/ft^2
1. Assembly	.0.25
2. Office	.0.75
3. Retail	.0.25
4. Warehouse	.0.10
5. School	.0.50
6. Hotel/Motel	.0.25
7. Restaurant	.0.10
8. Health	.1.00
9. Multi-Family	.0.75

2. The actual average receptacle power density for all activity areas within 15 ft of each exterior wall in W/ft ^{2}, considering diversity. For determining compliance in Tables 5.4–2 through 5.4–31, the actual average receptacle power densities calculated by this method that exceed 1.0 W/ft ^{2} shall be limited to 1.0 W/ft ^{2} in Equation 5.4–1.

The Occupant Load Adjustment (OLA) shall be either:

1. 0.0 W/ft^2. This recognizes the assumed occupant sensible load of 0.6 W/ft^2 that is built into the ACP tables; or

2. A positive or negative difference between the actual occupant load and 0.6 W/ft^2 if the design building has a larger or smaller occupant load.

(2) *Select external shading projection factor (PF).* If no external shading projections are used in the proposed design, select the column designated Projection Factor=0.000–0.249. If external shading projections are used, determine the average area weighted projection factor on the window in accordance with Equation 5.4–2. Then select the appropriate column in the ACP Table.

$$PF = P_d/H$$

Equation 5.4–2

Where:

PF=Average area weighted projection factor

P_d=External horizontal shading projection depth, in. or ft

H=Sum of height of the fenestration and the distance from the top of the fenestration to the bottom of external shading projection in units consistent with P_d.

(3) Select the Shading Coefficient of the fenestration (SC_x) including internal, integral, and external shading devices, but excluding the effect of external shading projections (PF). This includes curtains, shades, or blinds. Reference *ASHRAE Handbook, 1985 Fundamentals Volume*, Chapter 27.

(4) Select one of the daylighting options, either:

1. Base Case, no daylighting; or

2. Perimeter Daylighting (automatic daylight controls for lighting system must be used). This option is not available in some locations.

(5) Select appropriate fenestration type. For most options, this is determined by the thermal transmittance value (U_{of}) of the fenestration assembly. For some fenestration options, the visible light transmittance (VLT) of the fenestration should not be less than the shading coefficient of the glazed portion of the fenestration assembly, not considering any shading devices. The ranges generally correspond to single glazing, double glazing, triple glazing and high performance glazing incorporating low emissivity coatings/films or more than two glazing layers. Each ACP table includes at most, three ranges of glazing U-value.

5.4.4.2.3 *Determine the Maximum U_{ow} for the Opaque Wall Assembly.* In the appropriate ACP Table the Maximum U_{ow} for the opaque wall assembly is determined using the following steps:

(a) For a lightweight wall assembly, heat capacity (HC) less than 5 Btu/ft^2·°F, use the value indicated. This U_{ow} is constant over all internal load ranges.

(b) To use the mass wall adjustment, the following additional steps are necessary:

(1) Select the same internal load range as that used in determining the

maximum allowable percent fenestration.

(2) Select the mass wall heat capacity (HC) and insulation position. If the wall insulation is positioned internal to or integral with the wall mass, use the column headed Interior/Integral Insulation. If the wall insulation is positioned external to the wall mass use the column headed Exterior Insulation. For HC less than 5 Btu/ft².°F this adjustment table cannot be used. At this step you will have two choices of U_{ow} that are keyed to a small or large percent fenestration. This represents the full range of U_{ow} values allowed.

(3) Select or interpolate the appropriate maximum U_{ow} for the opaque wall based on the maximum allowable percent fenestration determined in Section 5.4.4.2.2 or the actual building percent fenestration whichever value is lower. The U_{ow} shall be determined by straight line interpolation for fenestration percentages between the smallest and largest values listed. If the design building percentage fenestration is less than the smallest value listed, select the U_{ow} for the largest percentage fenestration listed.

5.4.4.2.4 *Determine Other Envelope Criteria.* In each ACP table, the criteria for roof, wall adjacent to unconditioned space, wall below grade (first story only), floor over unconditioned space, and slab-on-grade floors, shall be met. For heated slabs on grade, the R-value shall be the R-value for the unheated slab-on-grade plus 2.0. For skylights, the daylight credit procedure presented in Section 5.3.10 shall be used.

5.5 Building Envelope—System Performance Compliance Alternative

5.5.1 Roof Thermal Transmittance Criteria

5.5.1.1 Any building that is heated and/or mechanically cooled shall have an overall thermal transmittance value (U_{or}) for the gross area of the roof assembly not greater than the value determined by Equation 5.5–1. The provisions of Section 5.3 shall be followed in determining acceptable combinations of materials that will meet the required U_{or} values of Equation 5.5–1.

$$U_o = 1/(5.3 + 1.8 \times 10^{-3} \times HDD65 + 1.3 \times 10^{-3} \times CDD65 + 2.6 \times 10^{-4} \times CDH80)$$

Equation 5.5–1

5.5.1.2 Equation 5.5–1 applies only for climate locations with HDD65 less than or equal to 15,000. For climate locations with HDD65 greater than 15,000, see subsection 5.3.9, Table 5.3–5.

5.5.1.2.1 *Exceptions to Section 5.5.1.2:*

(a) any building that is only heated shall have an overall thermal transmittance value (U_{or}) for the gross area of the roof assembly less than or equal to the value determined by Equation 5.5–1 with CDD65 and CDH80 set equal to zero; and

(b) any building that is only mechanically cooled shall have an overall thermal transmittance value (U_{or}) for the gross area of the roof assembly less than or equal to the value determined by Equation 5.5–1 with HDD65 set equal to zero.

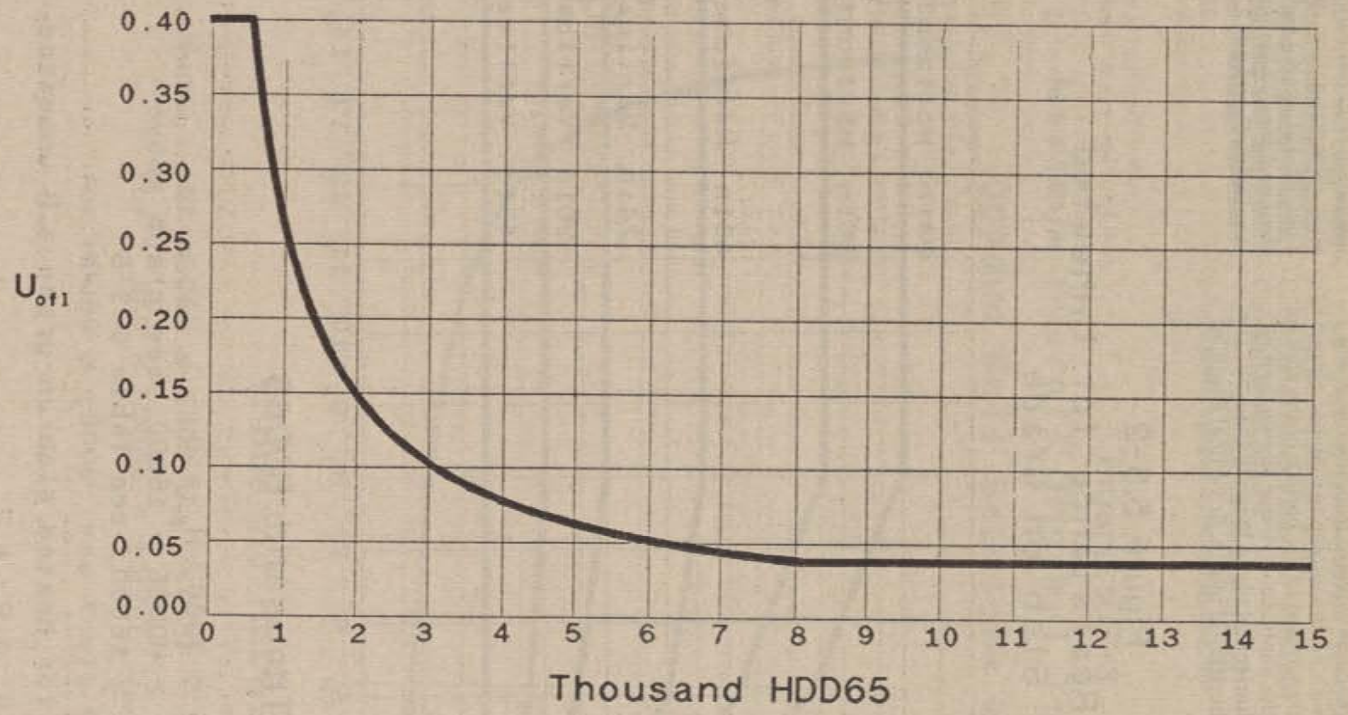
5.5.2 Floor Thermal Transmittance Criteria

5.5.2.1 The floors of any building that is heated and/or mechanically cooled shall meet the following thermal criteria:

5.5.2.1.1 Floors of conditioned spaces over unconditioned spaces shall have a thermal transmittance (U_{of}) not greater than that specified in Figure 5.5–1.

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Figure 5.5-1
Maximum Overall Thermal Transmittance
for Floors of Conditioned Spaces Over
Unconditioned Spaces



Note:

for HDD65 ≤ 550, U_{of1} = 0.40

for 550 < HDD65 ≤ 8000, $U_{of1} = 1/[0.840 + 0.00302 \times HDD65]$

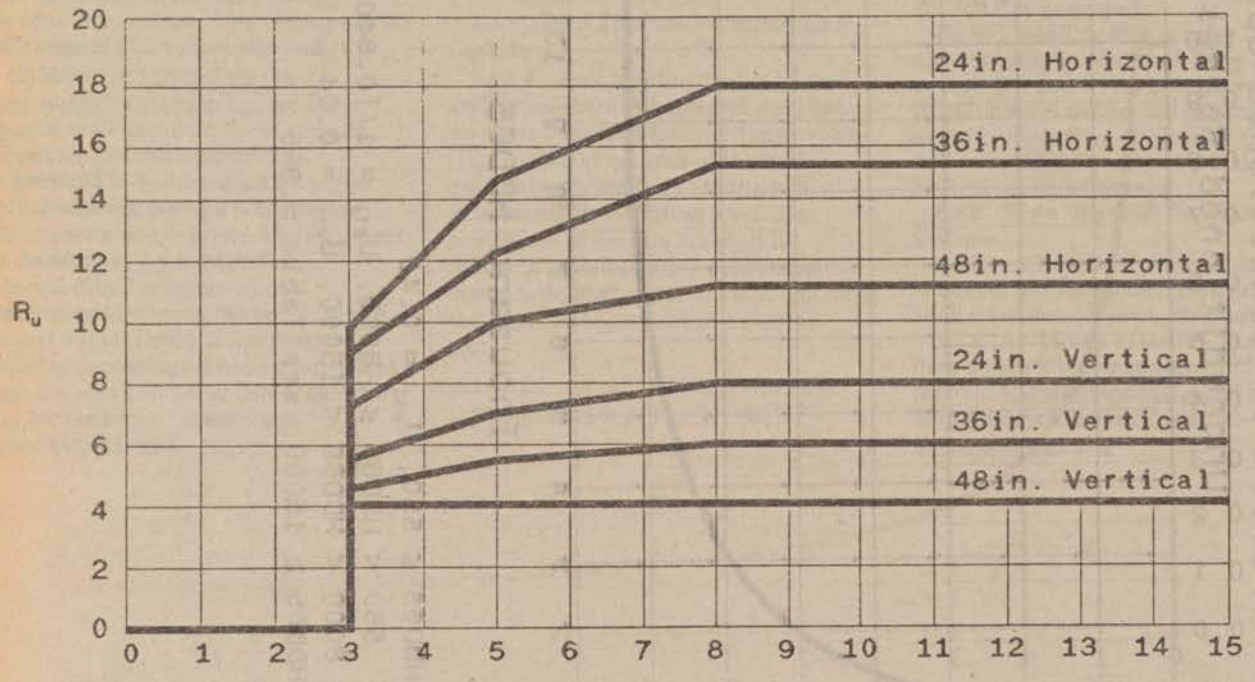
for 8000 < HDD65 < 15000, U_{of1} = 0.04

for HDD65 ≥ 15000, see Table 5.3-5

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5.5.2.1.2 Slab-on-grade floors shall have insulation around the perimeter of the floor with the thermal resistance (R_u) of the insulation as specified in Figure 5.5–2. The insulation specified in Figure 5.5–2 shall extend either in a vertical plane downward from the top of the slab for the minimum distance shown or downward to the bottom of the slab for the minimum distance shown then in a horizontal plane beneath the slab. The horizontal length, or vertical depth, of insulation required varies from 24 in. to 48 in. depending upon the R-value selected. For heated slabs, an R of 2 shall be added to the thermal resistance required in Figure 5.5–2.

Figure 5.5–2
Thermal Resistance for Unheated Slab on Grade



Note: for HDD65 ≤ 3000, $R_u = 0$
for 3000 > HDD65 > 15000, see graph above
for HDD65 ≥ 15000, see Table 5.3-5

R values for heated slab-on-grade = R unheated + 2;

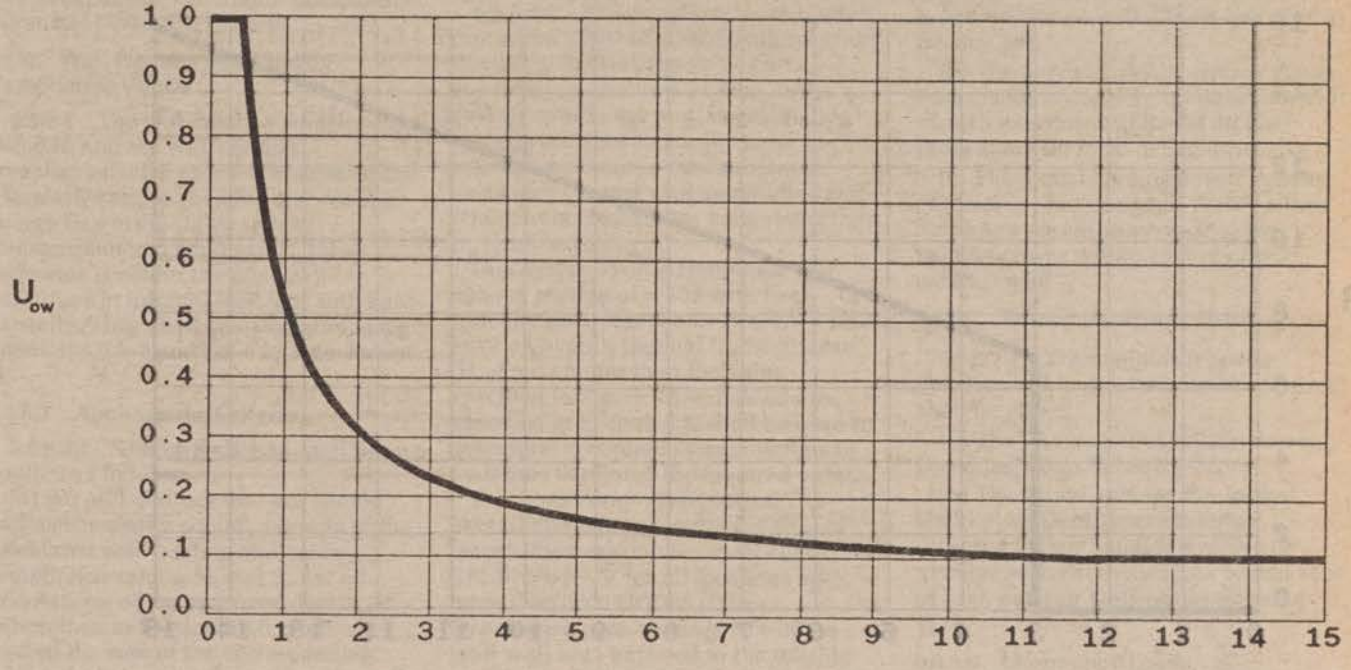
$R_h = R_u + 2$

(a) Vertical insulation is not required to extend below the foundation footing. There are no insulation requirements for slabs in locations having less than 3,000 HDD65 for footings extending less than 18 in. below grade.

5.5.3 Thermal Transmittance Criteria For Opaque Walls Enclosing Conditioned Spaces Exposed to Interior Unconditioned Spaces

5.5.3.1 All opaque walls enclosing conditioned spaces exposed to interior unconditioned spaces shall have an overall thermal transmittance (U_{ow}) not greater than the value specified in Figure 5.5-3.

Figure 5.5-3
Maximum Overall Thermal Transmittance of Opaque Wall Sections With HC < 7

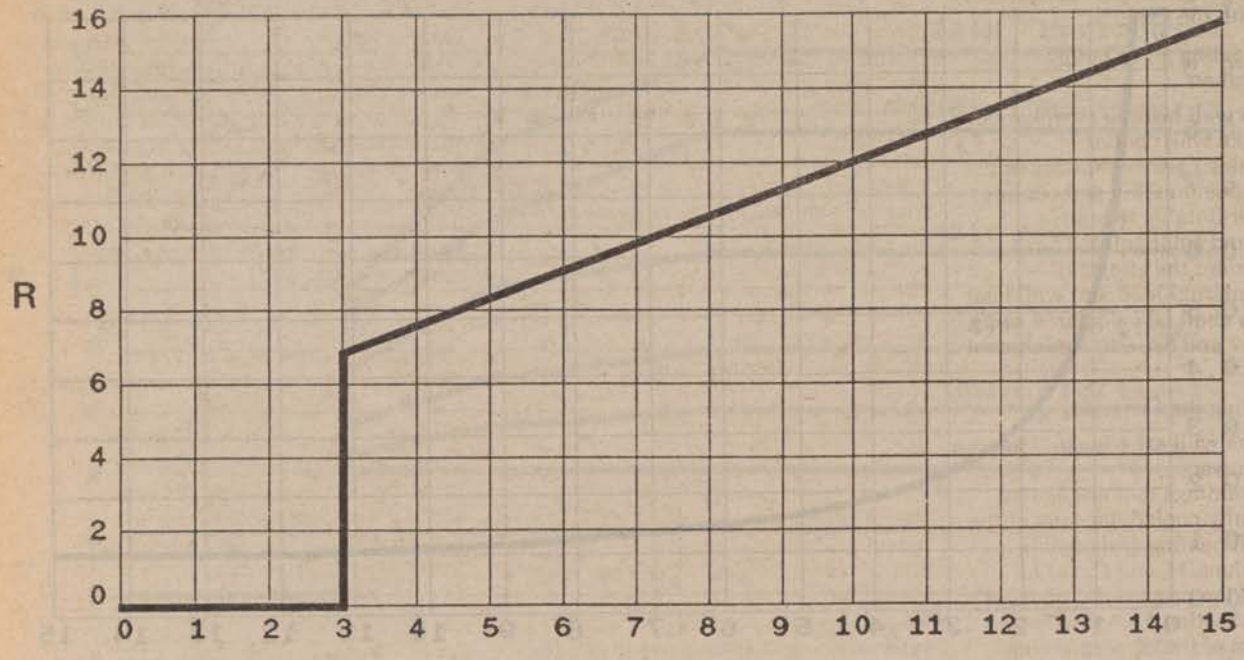


Note: for HDD65 ≤ 540, U_{ow} = 1.0
for 540 < HDD65 < 15000, U_{ow} = 0.0528 + 510.9/HDD65
for HDD65 ≥ 15000, see Table 5.3-5

5.5.4 Thermal Resistance Criteria for Exterior Wall Insulation Below Grade

5.5.4.1 The thermal resistance (R) of the wall assembly shall be greater than, or equal to the insulation level specified in Figure 5.5–4, or the heat loss calculated in accordance with Chapter 25 of the *ASHRAE Handbook, 1985 Fundamentals Volume* shall be less than, or equal to that of a wall below grade having a thermal resistance equal to that specified in Figure 5.5–4. No insulation is required for climate locations with less than 3,000 HDD65 for those portions of walls more than one story below grade.

Figure 5.5–4
Thermal Resistance of Wall
First Story Below Grade



Note: for HDD65 ≤ 3000, R = 0
for 3000 < HDD65 < 15000, R = 4.5 + 0.00075 x HDD65
for HDD65 ≥ 15000, see Table 5.3-5

5.5.5 External Wall Criteria for Heating and Cooling

5.5.5.1 The external wall heating criteria (WC_h) and cooling criteria (WC_c) represent limits on cumulative annual heating and cooling energy flux attributable to transmission and solar gain. These limits accommodate variation in internal load and wall heat capacity. They shall be determined for a building envelope design using Equations 5.5–2 and 5.5–6 in Attachment 5B, "Equations to Determine External Wall Heating and Cooling Criteria (WC_c and WC_h) and to Determine Compliance (C_i and H_i) With the Criteria."

5.5.6 Wall Heating and Cooling Compliance Values

5.5.6.1 The wall heating compliance value H_i and the wall cooling compliance value C_i are estimates of the cumulative annual heating and cooling energy flux attributable to heat transmission and solar gains. These estimates consider the effects of variations in internal load and wall heat capacity. They shall be calculated using Equations 5.5–2 and 5.5–6 in Attachment 5B.

5.5.6.3 Applying the Criteria

5.5.6.3.1 The wall criteria shall be applied as follows:

(a) For all buildings that are heated and mechanically cooled, the sum of the calculated wall heating and cooling compliance values, H_i and C_i, for all orientations of the proposed design, as determined in Section 5.5.6, shall not exceed the sum of the corresponding wall criteria for all orientations for wall heating (WC_h) and wall cooling (WC_c).

(b) For buildings that are only heated, the sum of the calculated wall heating compliance values, H_i, for all orientations of the proposed design, as determined in Section 5.5.6, shall not exceed the sum of the corresponding wall heating criterion WC_h for all orientations.

(c) For buildings that are only mechanically cooled, the sum of the calculated cooling compliance values, C_i, for all orientations of the proposed design, as determined from Section 5.5.6, shall not exceed the sum of the corresponding wall cooling criteria, WC_c for all orientations.

5.5.6.4 Constraints on Thermal Transmittance Values

5.5.6.4.1 The compliance calculation procedure in Section 5.5.6.3 allows great flexibility in selecting values for envelope components as long as the overall criteria are met. In calculating compliance, two constraints are imposed on thermal transmittance values for opaque wall assemblies and fenestration assemblies comprising the U_o term, as follows:

(a) *Opaque Wall Assemblies:* The opaque portion of walls with heat capacity (HC) less than 7 Btu/ft²·°F shall have an overall thermal transmittance (U_{ow}) not greater than the value specified in Figure 5.5–4. Procedures, specified in Section 5.3, shall be used to determine acceptable combinations of materials that meet the required value.

(b) *Fenestration Assemblies*: The overall thermal transmittance (U_{of}) of fenestration assemblies shall not exceed 0.81 Btu/h-ft²·°F for all locations with more than 3000 HDD65 if the fenestration area exceeds 10% of the total wall area exposed to the outside air. Thermal transmittance for the fenestration shall be determined using the calculation procedures in Section 5.3.1 and shall include the effects of sash, frames, edge effects, and spacers for multiple-glazed units.

5.5.6.5 Constraint on Daylighting Credit

5.5.6.5.1 For a given orientation, daylight credit may be used in Equations 5.5–2 and 5.5–6 only for that portion of the fenestration that is less than or equal to 65% of the gross wall area of the orientation.

5.5.6.6 Lighting Power Density

5.5.6.6.1 The Lighting Power Density used in calculating the compliance value shall be:

(a) The building average unit Interior Lighting Power Allowance of the proposed design in W/ft² as specified in Section 3.0;

(b) The average of the Lighting Power Budgets for all activity areas within 15 ft of each exterior wall based on the procedures set forth in Section 5.3; or

(c) The actual lighting power density of the proposed design in W/ft², either building average or average of the lighting power within 15 ft of each exterior wall.

5.5.6.7 Equipment Power Density

5.5.6.7.1 The equipment power density used in determining compliance shall be either:

(a) The "Average Receptacle Power Densities" from Table 5.4–32, or

(b) The actual average Equipment Unit Power Density, considering diversity, either building average or average in the activity areas within 15 ft of each exterior wall, not to exceed 1 W/ft².

5.5.6.8 Occupancy Loads

5.5.6.8.1 An occupancy load of 0.6 W/ft² is assumed. If the occupancy loads in the building design are different from this value, use the larger value.

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Attachment 5A
List of Cities and Climate Data

NO	CITY	STATE	HDD50	HDD65	VSN	VSEW	VSS	CDD50	CDD65	CDH80	DR	NO HRS 8AM-4PM T<55	NO HRS 8AM-4PM 55≤T≤69	ACP TABLE
Alabama														
28	Birmingham	AL	765	2882	464	789	908	5182	1825	6272	17.5	720	760	5.4- 7
143	Mobile	AL	164	1580	486	816	919	6478	2419	7479	16.6	408	774	5.4- 9
145	Montgomery	AL	491	2261	462	823	981	5821	2116	8473	19.5	609	734	5.4- 9
Alaska														
2	Adak	AK	3562	8913	280	434	652	124	0	0	9.9	2754	156	5.4-30
9	Anchorage	AK	5301	10540	272	538	926	236	0	0	13.8	2398	521	5.4-30
10	Annette Island	AK	2545	7277	285	482	739	756	12	0	10.1	2169	719	5.4-30
24	Bethel	AK	8285	13449	252	453	789	312	0	0	14.3	2555	347	5.4-31
25	Big Delta	AK	9355	14069	249	527	989	777	16	25	19.0	2141	606	5.4-31
76	Fairbanks	AK	9841	14414	241	492	919	922	19	8	18.2	2083	682	5.4-31
93	Gulkana	AK	8865	13846	257	522	943	498	4	6	18.5	2225	615	5.4-31
105	Juneau	AK	4223	9350	254	410	642	348	0	0	12.7	2367	540	5.4-30
106	King Salmon	AK	6843	11992	270	499	860	330	4	6	15.4	2395	502	5.4-31
109	Kodiak	AK	3775	8896	276	509	852	360	6	0	10.6	2519	384	5.4-30
132	McGrath	AK	9967	14868	246	467	841	578	3	0	15.9	2265	596	5.4-31
152	Nome	AK	9061	14418	242	478	871	119	0	0	9.0	2710	210	5.4-31
208	Summit	AK	9210	14530	247	488	893	155	0	0	13.6	2616	298	5.4-31
231	Yakutat	AK	4486	9714	247	402	650	248	0	0	9.3	2471	439	5.4-30
Arizona														
163	Phoenix	AZ	90	1382	488	1116	1310	7830	3647	34521	21.2	373	746	5.4-13
171	Prescott	AZ	1477	4462	473	1090	1334	3385	895	3973	24.0	1021	725	5.4-16
218	Tucson	AZ	178	1601	500	1112	1280	6822	2769	19657	21.9	399	716	5.4-11
229	Winslow	AZ	1695	4603	471	1092	1338	3708	1141	7347	27.7	1130	634	5.4-16
234	Yuma	AZ	43	782	493	1151	1330	8921	4186	37892	23.5	247	697	5.4-13
Arkansas														
79	Fort Smith	AR	1149	3394	462	842	1005	5307	2077	10413	22.4	925	547	5.4-19
121	Little Rock	AR	912	3091	465	831	981	5351	2055	8450	17.5	865	626	5.4- 9
California														
12	Arcata	CA	582	5020	407	724	926	1038	1	0	8.9	1396	1509	5.4- 4
19	Bakersfield	CA	305	2194	474	1053	1211	5879	2294	15447	28.9	645	848	5.4-10
48	China Lake	CA	409	2444	468	1091	1312	6222	2782	26739	27.4	582	772	5.4-11
58	Daggett	CA	237	1916	475	1102	1309	6516	2720	22302	27.0	472	841	5.4-11
71	El Toro	CA	32	1577	486	977	1163	4764	834	2391	22.3	215	1474	5.4- 6
82	Fresno	CA	492	2700	459	1029	1199	5070	1803	13085	31.8	780	785	5.4- 8
122	Long Beach	CA	54	1483	482	956	1144	4947	900	1616	16.1	263	1502	5.4- 6
123	Los Angeles	CA	3	1494	482	962	1146	4456	472	136	14.1	145	1849	5.4- 6
146	Mount Shasta	CA	1947	5583	419	909	1153	2395	556	2073	16.2	1544	756	5.4-22
156	Oakland	CA	157	2922	453	909	1102	2792	82	23	16.4	770	1905	5.4- 5
167	Point Mugu	CA	8	2193	477	936	1131	3435	145	70	12.3	209	2146	5.4- 5
176	Red Bluff	CA	589	2884	428	951	1177	5110	1930	14404	29.5	860	810	5.4- 8
185	Sacramento	CA	381	2753	444	987	1185	4274	1171	7315	34.6	834	990	5.4- 8
191	San Diego	CA	2	1275	490	950	1121	4865	662	383	11.5	102	1911	5.4- 6
192	San Francisco	CA	186	3238	454	941	1146	2496	73	204	20.2	782	1796	5.4- 5
194	Santa Maria	CA	138	3041	476	950	1128	2663	92	513	20.9	414	2016	5.4- 5
209	Sunnyville	CA	142	2708	456	947	1145	3112	204	421	16.9	610	1794	5.4- 5
Colorado														
50	Colorado Springs	CO	2587	5996	435	976	1321	2557	491	2075	24.0	1357	725	5.4-22
62	Denver	CO	2652	6083	428	971	1321	2611	567	2934	25.5	1329	739	5.4-22
68	Eagle	CO	4232	8317	432	976	1296	1480	90	1008	35.4	1650	660	5.4-28
86	Grand Junction	CO	2616	5701	438	1003	1303	3611	1221	6147	27.4	1383	518	5.4-24
173	Pueblo	CO	2223	5285	442	992	1309	3384	971	5899	27.5	1077	720	5.4-22
Connecticut														
95	Hartford	CT	2953	6277	384	646	834	2857	706	2197	23.7	1459	598	5.4-21
Delaware														
227	Wilmington	DE	2133	5084	414	726	921	3602	1078	2188	17.2	1289	617	5.4-20

NO	CITY	STATE	HDD50	HDD65	VSN	VSEW	VSS	CDD50	CDD65	CDH80	DR	NO HRS T<55	8AM-4PM 55≤T≤69	ACP TABLE
District of Columbia														
223	Washington	DC	2004	4828	419	724	905	3734	1083	3592	18.6	1205	657	5.4-20
Florida														
11	Apalachicola	FL	163	1366	508	887	971	6967	2695	8289	14.3	322	778	5.4-10
60	Daytona	FL	81	787	503	860	953	7404	2635	5252	14.8	177	641	5.4-10
104	Jacksonville	FL	206	1357	495	849	943	7045	2721	7488	16.4	354	674	5.4-10
136	Miami	FL	3	185	527	874	936	9338	4045	9166	12.4	55	259	5.4-12
160	Orlando	FL	33	532	511	881	974	8288	3312	9757	17.1	131	571	5.4-12
211	Tallahassee	FL	307	1721	495	845	944	6462	2401	7323	16.1	421	747	5.4-10
212	Tampa	FL	37	575	518	890	974	7985	3047	8905	14.9	147	592	5.4-10
224	West Palm Beach	FL	0	177	519	846	906	9203	3904	10324	13.1	22	308	5.4-12
Georgia														
15	Atlanta	GA	866	3070	467	807	930	4837	1566	3799	17.6	915	749	5.4- 7
16	Augusta	GA	664	2584	468	803	933	5458	1904	6904	21.3	690	774	5.4- 7
128	Macon	GA	514	2330	476	822	939	5769	2111	8097	18.7	667	787	5.4- 9
196	Savannah	GA	410	1967	474	805	926	6112	2194	6308	16.6	529	725	5.4- 9
Hawaii														
22	Barbers Point	HI	0	3	592	978	965	9314	3842	3617	11.2	1	97	5.4- 2
97	Hilo	HI	0	0	557	817	805	8494	3019	1112	11.0	0	153	5.4- 2
98	Honolulu	HI	0	0	588	953	932	9625	4150	4537	9.8	0	69	5.4- 2
120	Lihue	HI	0	2	567	895	893	9219	3746	1912	9.6	0	140	5.4- 2
Idaho														
30	Boise	ID	2276	5667	399	916	1228	2828	744	4512	28.9	1542	647	5.4-22
117	Lewiston	ID	2015	5426	370	729	988	2709	645	4121	29.7	1467	748	5.4-20
166	Pocatello	ID	3404	7075	405	935	1262	2330	526	3293	32.8	1681	546	5.4-27
Illinois														
47	Chicago	IL	3000	6151	402	729	936	3339	1015	3190	16.6	1426	613	5.4-21
144	Moline	IL	3085	6250	405	736	959	3204	894	2808	19.5	1357	640	5.4-21
207	Springfield	IL	2490	5448	422	768	962	3675	1158	4038	20.2	1260	600	5.4-23
Indiana														
75	Evansville	IN	1948	4625	426	736	890	4063	1265	4288	18.4	1141	611	5.4-23
80	Fort Wayne	IN	3023	6145	395	664	826	3096	743	1629	17.7	1400	601	5.4-21
101	Indianapolis	IN	2624	5620	407	692	851	3430	951	2263	18.0	1375	602	5.4-21
204	South Bend	IN	3038	6280	396	690	857	2917	684	1840	21.1	1415	635	5.4-21
Iowa														
35	Burlington	IA	3009	6094	419	802	1030	3393	1002	2598	17.1	1354	649	5.4-21
63	Des Moines	IA	3275	6447	413	788	1027	3116	812	2383	17.5	1423	667	5.4-25
130	Mason City	IA	4311	7735	400	783	1053	2708	658	1882	20.8	1548	610	5.4-26
202	Sioux City	IA	3608	6750	406	794	1064	3326	993	3488	18.6	1438	602	5.4-25
Kansas														
66	Dodge City	KS	2280	5131	450	942	1196	4008	1384	7186	26.0	1252	637	5.4-24
84	Goodland	KS	2757	6090	434	935	1228	3047	905	5147	26.3	1358	625	5.4-22
215	Topeka	KS	2458	5201	434	837	1068	4120	1388	5212	22.3	1192	608	5.4-23
Kentucky														
56	Covington	KY	2154	5030	408	687	843	3656	1057	2638	18.3	1316	661	5.4-20
119	Lexington	KY	1921	4649	425	729	872	3904	1157	2853	15.6	1211	618	5.4-23
124	Louisville	KY	1851	4539	424	727	883	4144	1357	4716	17.6	1192	636	5.4-23
Louisiana														
23	Baton Rouge	LA	237	1573	488	806	889	6682	2543	8814	17.2	440	677	5.4- 9
113	Lake Charles	LA	214	1455	489	795	864	6849	2615	7883	14.8	396	668	5.4- 9
148	New Orleans	LA	179	1392	497	838	923	6840	2578	7380	15.1	324	789	5.4- 9
201	Shreveport	LA	447	2265	484	843	954	6022	2365	10039	18.1	687	697	5.4- 9
Maine														
21	Bangor	ME	4132	7998	378	693	950	1853	243	454	21.5	1721	669	5.4-26
38	Caribou	ME	5297	9483	357	649	922	1410	121	203	18.1	1862	692	5.4-29
169	Portland	ME	3531	7305	376	643	856	1946	245	399	19.6	1604	665	5.4-25

NO	CITY	STATE	HDD50	HDD65	VSN	VSEW	VSS	CDD50	CDD65	CDH80	DR	NO HRS T<55	8AM-4PM 55≤T≤69	ACP TABLE
Maryland														
20	Baltimore	MD	2020	4946	419	739	932	3683	1134	3825	18.6	1268	593	5.4-20
161	Patuxent	MD	1418	4002	429	758	943	4180	1289	2966	12.9	1118	729	5.4-17
Massachusetts														
31	Boston	MA	2416	5775	387	659	849	2810	695	1601	16.5	1495	713	5.4-20
Michigan														
7	Alpena	MI	4282	8164	371	661	862	1928	335	894	17.3	1707	695	5.4-26
64	Detroit	MI	2799	5997	390	676	858	3199	922	2238	18.8	1404	632	5.4-21
78	Flint	MI	3471	6917	379	641	811	2502	473	921	18.1	1563	634	5.4-25
87	Grand Rapids	MI	3392	6777	390	688	872	2680	590	1461	22.2	1562	622	5.4-25
195	Sault Sainte Marie	MI	5087	9282	359	640	858	1399	119	246	21.0	1838	733	5.4-29
216	Traverse City	MI	3934	7654	369	642	818	2193	438	1124	21.0	1651	679	5.4-25
Minnesota														
67	Duluth	MN	5797	9918	355	633	886	1511	157	258	20.0	1882	650	5.4-29
102	International Falls	MN	6414	10535	351	669	962	1473	119	167	22.0	1870	656	5.4-29
140	Minneapolis	MN	4563	8060	380	709	972	2751	773	2509	20.7	1620	566	5.4-26
181	Rochester	MN	4544	8100	383	691	927	2360	442	590	18.8	1584	652	5.4-26
Mississippi														
103	Jackson	MS	546	2424	481	833	942	5927	2330	8789	17.2	646	640	5.4- 9
135	Meridian	MS	546	2446	480	811	905	5723	2148	9508	20.2	613	719	5.4- 9
Missouri														
51	Columbia	MO	2225	4994	431	790	972	3940	1234	4242	21.5	1189	633	5.4-23
186	Saint Louis	MO	2111	4860	432	797	983	4193	1467	5379	18.7	1124	614	5.4-23
206	Springfield	MO	1839	4509	446	812	982	4115	1311	4170	20.4	1215	544	5.4-23
Montana														
26	Billings	MT	3627	7156	380	814	1160	2544	598	2695	25.6	1650	617	5.4-25
57	Cutbank	MT	4718	8941	357	768	1150	1368	117	702	27.6	1834	672	5.4-26
65	Dillon	MT	4140	8210	386	838	1187	1564	159	784	28.6	1814	639	5.4-26
83	Glasgow	MT	5082	8828	361	752	1115	2272	543	2642	26.0	1688	570	5.4-29
88	Great Falls	MT	3728	7454	366	776	1133	2199	450	1886	26.7	1684	641	5.4-25
96	Helena	MT	3926	7817	372	771	1098	1911	328	1771	28.3	1784	651	5.4-25
118	Lewistown	MT	4027	8089	368	753	1084	1629	216	1270	29.8	1740	673	5.4-26
138	Miles City	MT	4435	7989	374	800	1156	2694	773	4364	26.9	1588	565	5.4-26
142	Missoula	MT	3492	7560	363	704	957	1629	221	1513	30.8	1843	658	5.4-25
Nebraska														
85	Grand Island	NE	3315	6477	420	843	1115	3309	996	4580	24.5	1431	611	5.4-25
155	North Platte	NE	3447	6905	419	880	1183	2731	715	3468	26.2	1514	592	5.4-27
159	Omaha	NE	2981	5968	414	806	1066	3618	1130	3883	19.6	1355	586	5.4-21
197	Scottsbluff	NE	3335	6900	413	861	1168	2603	693	3745	28.3	1457	620	5.4-27
Nevada														
72	Elko	NV	3345	7178	420	1000	1332	1997	355	4065	37.8	1540	569	5.4-27
73	Ely	NV	3683	7666	432	1014	1350	1650	157	1317	30.1	1529	683	5.4-27
116	Las Vegas	NV	449	2399	456	1136	1417	6567	3043	26408	25.5	604	719	5.4-11
125	Lovelock	NV	2438	5845	418	1094	1452	2813	745	6659	34.7	1358	606	5.4-22
178	Reno	NV	2181	5841	428	1068	1401	2180	365	4059	39.3	1306	752	5.4-22
214	Tonopah	NV	2308	5652	427	1130	1502	2742	611	3777	28.4	1257	660	5.4-22
228	Winnemucca	NV	2774	6471	418	1014	1350	2264	486	6366	41.0	1383	608	5.4-22
233	Yucca Flats	NV	1664	4802	450	1112	1399	3378	1041	11568	35.9	1004	670	5.4-16
New Hampshire														
54	Concord	NH	3742	7425	375	630	824	2254	463	1865	22.6	1533	683	5.4-25
New Jersey														
114	Lakehurst	NJ	2174	5265	407	712	917	3299	915	3019	20.5	1312	645	5.4-20
151	Newark	NJ	2027	4956	406	710	912	3556	1009	2487	17.7	1325	644	5.4-20

NO	CITY	STATE	HDD50	HDD65	VSN	VSEW	VSS	CDD50	CDD65	CDH80	DR	NO HRS 8AM-4PM T<55	NO HRS 8AM-4PM 55≤T≤69	ACP TABLE
New Mexico														
5	Albuquerque	NM	1633	4423	469	1105	1361	3942	1257	5705	25.3	1148	703	5.4-18
49	Clayton	NM	2138	5176	457	1019	1310	3122	685	2093	20.0	1150	770	5.4-22
184	Roswell	NM	1008	3486	490	1081	1280	4536	1539	11135	26.1	825	677	5.4-18
217	Truth or Consequences	NM	1074	3592	488	1113	1326	4457	1500	6882	23.4	889	744	5.4-18
219	Tucumcari	NM	1344	3922	470	1046	1300	4451	1554	8424	26.9	914	710	5.4-18
New York														
4	Albany	NY	3488	6770	395	719	942	2812	619	1308	19.7	1487	605	5.4-25
27	Binghampton	NY	3885	7397	370	592	733	2373	410	672	18.5	1657	662	5.4-25
34	Buffalo	NY	3213	6721	371	609	746	2476	509	779	19.2	1571	697	5.4-25
131	Massena	NY	4583	8397	380	708	942	2026	365	913	20.9	1674	627	5.4-26
149	New York (Central Pk)	NY	1986	5022	392	650	817	3273	834	911	12.5	1335	790	5.4-20
150	New York (LAG)	NY	1986	5022	392	650	817	3273	834	911	12.5	1335	790	5.4-20
182	Rochester	NY	3482	6995	374	622	771	2557	595	1642	20.1	1612	608	5.4-25
210	Syracuse	NY	3448	6856	371	611	764	2579	513	926	20.2	1521	730	5.4-25
North Carolina														
13	Asheville	NC	1407	4203	449	782	946	3442	763	1298	21.1	1083	915	5.4-15
37	Cape Hatteras	NC	635	2745	460	819	972	4978	1613	2039	10.0	765	820	5.4- 7
43	Charlotte	NC	1086	3412	456	809	968	4698	1549	4299	19.6	892	777	5.4-17
45	Cherry Point	NC	569	2556	461	826	996	5277	1788	3614	15.2	690	757	5.4- 7
90	Greensboro	NC	1261	3760	449	810	994	4274	1298	3642	17.4	1018	718	5.4-17
174	Raleigh	NC	1131	3509	445	774	935	4485	1389	3697	16.5	918	740	5.4-17
North Dakota														
29	Bismarck	ND	5196	8992	371	766	1114	2175	496	2067	27.8	1724	556	5.4-29
77	Fargo	ND	5582	9242	371	751	1077	2388	573	2288	22.2	1730	546	5.4-29
141	Minot	ND	5336	9178	358	724	1059	2064	431	1570	24.5	1800	581	5.4-29
Ohio														
3	Akron	OH	2881	6172	396	664	812	2845	661	1100	17.3	1460	680	5.4-21
53	Columbus	OH	2424	5493	401	671	819	3195	789	2268	22.6	1375	708	5.4-20
59	Dayton	OH	2573	5549	408	696	855	3367	868	1346	17.1	1388	611	5.4-20
213	Toledo	OH	3132	6514	393	676	853	2791	698	1794	17.8	1500	652	5.4-21
232	Youngstown	OH	3129	6557	383	624	760	2593	546	1128	21.4	1523	679	5.4-21
Oklahoma														
157	Oklahoma City	OK	1417	3825	465	875	1053	4901	1834	8878	20.8	980	733	5.4-18
220	Tulsa	OK	1429	3732	453	820	991	5244	2072	10065	19.7	983	591	5.4-19
Oregon														
14	Astoria	OR	1080	5226	350	588	782	1357	29	145	12.3	1571	1236	5.4-14
133	Medford	OR	1531	4893	405	814	1005	2681	568	4081	32.9	1442	749	5.4-15
154	North Bend	OR	629	4678	392	740	977	1429	2	0	11.8	1351	1553	5.4- 4
170	Portland	OR	1151	4577	364	647	841	2321	272	1086	22.8	1421	1060	5.4-14
177	Redmond	OR	2535	6665	395	835	1127	1573	228	2390	34.4	1631	695	5.4-20
187	Salem	OR	1128	4926	373	680	874	1849	172	1224	29.3	1499	916	5.4-14
Pennsylvania														
6	Allentown	PA	2692	5760	401	682	864	3105	698	1146	17.0	1335	710	5.4-21
18	Avoca	PA	2931	6236	389	646	811	2823	652	1547	19.7	1505	705	5.4-21
74	Erie	PA	3006	6426	384	646	792	2527	472	378	14.8	1532	716	5.4-21
94	Harrisburg	PA	2302	5251	404	687	864	3518	992	2860	20.1	1342	648	5.4-20
162	Philadelphia	PA	2044	4923	408	701	889	3661	1065	3172	17.1	1286	646	5.4-20
165	Pittsburgh	PA	2773	5907	392	642	780	2989	648	1040	19.0	1426	700	5.4-21
Rhode Island														
172	Providence	RI	2610	6022	393	677	874	2756	693	1284	16.8	1429	684	5.4-21
South Carolina														
41	Charleston	SC	435	2194	467	796	925	5722	2005	5249	16.4	570	767	5.4- 9
52	Columbia	SC	694	2666	467	816	953	5613	2110	8541	19.5	741	705	5.4- 9
91	Greenville	SC	907	3220	459	814	971	4563	1400	3494	17.7	866	851	5.4- 7

NO	CITY	STATE	HDD50	HDD65	VSN	VSEW	VSS	CDD50	CDD65	CDH80	DR	NO HRS 8AM-4PM T<55	NO HRS 8AM-4PM 55≤T≤69	ACP TABLE
South Dakota														
100	Huron	SD	4820	8351	390	769	1044	2718	774	3739	24.5	1630	545	5.4-26
164	Pierre	SD	4028	7358	392	822	1147	3079	934	5262	24.2	1564	557	5.4-26
175	Rapid City	SD	3672	7229	394	819	1142	2581	663	3477	28.2	1530	572	5.4-25
203	Sioux Falls	SD	4240	7683	394	778	1078	2811	779	3029	20.2	1553	599	5.4-26
Tennessee														
44	Chattanooga	TN	1232	3595	444	738	869	4652	1541	5079	17.6	1050	684	5.4-17
108	Knoxville	TN	1283	3818	446	762	898	4455	1514	3840	17.8	1076	703	5.4-17
134	Memphis	TN	1034	3259	460	806	935	5319	2069	7807	19.2	865	851	5.4-19
147	Nashville	TN	1165	3609	443	749	863	4583	1552	5078	18.2	897	749	5.4-17
Texas														
1	Abilene	TX	792	2714	494	924	1066	5968	2416	13206	21.5	760	648	5.4-10
8	Amarillo	TX	1592	4331	471	1013	1253	4113	1377	6763	23.9	1109	680	5.4-18
17	Austin	TX	271	1735	503	877	972	6873	2862	14093	19.3	564	664	5.4-10
32	Brownsville	TX	35	642	547	908	908	8531	3664	12218	14.8	191	422	5.4-12
55	Corpus Christi	TX	106	889	529	906	946	8200	3508	13109	17.2	249	543	5.4-12
61	Del Rio	TX	186	1397	511	903	1008	7376	3112	14870	19.8	474	732	5.4-10
70	El Paso	TX	522	2605	503	1133	1306	5617	2225	13224	21.3	660	735	5.4-10
81	Fort Worth	TX	605	2354	485	875	994	6174	2448	13682	20.5	673	772	5.4-10
99	Houston	TX	195	1346	490	805	883	7215	2891	10569	18.2	352	703	5.4- 9
107	Kingsville	TX	49	874	527	881	922	8302	3652	15512	19.2	260	523	5.4-12
115	Laredo	TX	65	842	532	900	936	8827	4130	25225	21.4	286	598	5.4-13
126	Lubbock	TX	1173	3643	488	1070	1267	4754	1749	9827	25.1	917	743	5.4-18
127	Lufkin	TX	370	1846	492	848	942	6667	2668	11737	21.5	478	681	5.4-10
137	Midland	TX	634	2573	504	1079	1247	5695	2159	11177	25.9	698	729	5.4-10
168	Port Arthur	TX	167	1416	497	824	900	6888	2662	8837	17.4	384	697	5.4- 9
189	San Angelo	TX	538	2110	503	944	1076	6522	2619	14621	20.6	641	619	5.4-10
190	San Antonio	TX	261	1579	510	878	955	7170	3013	13841	20.1	462	690	5.4-10
200	Sherman	TX	699	2708	476	862	996	5844	2378	12065	20.2	785	721	5.4-10
221	Waco	TX	488	2166	495	874	972	6676	2879	15658	21.1	651	622	5.4-10
226	Wichita Falls	TX	984	3049	480	911	1077	5708	2299	14487	18.8	802	723	5.4-10
Utah														
33	Bryce Canyon	UT	4709	9288	445	1063	1386	899	4	69	30.0	1660	841	5.4-28
40	Cedar City	UT	2592	5888	447	1054	1342	2802	624	3119	27.1	1392	629	5.4-22
188	Salt Lake City	UT	2570	5975	422	975	1266	3011	941	7030	29.1	1426	586	5.4-22
Vermont														
36	Burlington	VT	4211	7932	382	698	925	2118	365	490	18.3	1697	637	5.4-26
Virginia														
153	Norfolk	VA	1185	3609	443	792	964	4636	1586	4554	15.0	1014	685	5.4-17
179	Richmond	VA	1322	3895	430	745	923	4225	1323	4021	17.6	996	716	5.4-17
180	Roanoke	VA	1520	4192	433	763	946	3986	1183	3306	19.0	1148	713	5.4-17
Washington														
158	Olympia	WA	1546	5550	351	619	819	1550	79	466	26.4	1577	985	5.4-14
198	Seattle/Tacoma	WA	1382	5281	350	621	828	1683	106	256	16.5	1700	982	5.4-14
205	Spokane	WA	2983	6727	363	758	1064	2094	363	1595	25.3	1669	640	5.4-21
225	Whidbey Island	WA	1179	5274	344	630	878	1403	22	7	14.8	1671	1169	5.4-14
230	Yakima	WA	2323	5877	373	790	1091	2370	449	3285	31.2	1413	703	5.4-20
West Virginia														
42	Charleston	WV	1816	4587	409	667	798	3712	1008	3054	20.8	1215	704	5.4-20
Wisconsin														
69	Eau Claire	WI	4751	8285	376	683	923	2545	603	1898	18.2	1565	661	5.4-26
89	Greenbay	WI	4310	8039	380	696	947	2172	426	957	22.1	1604	651	5.4-26
112	La Crosse	WI	3838	7243	386	701	937	2786	716	2121	18.9	1568	644	5.4-25
129	Madison	WI	4009	7466	391	717	955	2559	542	1329	19.1	1511	658	5.4-26
139	Milwaukee	WI	3586	7121	396	724	941	2427	487	1013	17.1	1587	618	5.4-25

NO	CITY	STATE	HDD50	HDD65	VSW	VSEW	VSS	CDD50	CDD65	CDH80	DR	NO HRS 8AM-4PM T<55	NO HRS 8AM-4PM 55≤T≤69	ACP TABLE
Wyoming														
39	Casper	WY	3824	7617	403	961	1343	2177	495	2699	29.8	1670	535	5.4-27
46	Cheyenne	WY	3435	7218	416	906	1267	1963	271	1040	26.4	1618	608	5.4-27
183	Rock Springs	WY	4407	8391	411	1012	1395	1698	207	702	29.1	1828	552	5.4-28
199	Sheridan	WY	3605	7366	387	806	1133	2074	360	2105	30.8	1650	574	5.4-25
Other Locations Outside U.S.A.														
92	Guantanamo Bay	CU	0	0	612	1045	1018	11071	5596	18452	15.5	0	17	5.4- 3
110	Koror Island	PN	0	0	662	890	827	11435	5960	14548	9.5	0	0	5.4- 3
111	Kwajalein Island	PN	0	0	678	961	888	11635	6160	16217	8.2	0	0	5.4- 3
193	San Juan	PR	0	0	608	963	931	10648	5173	11563	12.7	0	14	5.4- 3
222	Wake Island	PN	0	0	609	1002	977	10869	5394	10167	9.7	0	0	5.4- 3

ATTACHMENT 5B TO SECTION 435.105
EQUATIONS TO DETERMINE EXTERNAL WALL HEATING AND COOLING CRITERIA AND TO DETERMINE COMPLIANCE WITH THE CRITERIA

5B.1 Equations and Coefficients

This attachment contains the external wall equations for use in determining external wall heating and cooling criteria (WC_h and WC_c) and for determining compliance (H_i and C_i) with the criteria for north, east, south and west orientations. For NE, NW, SW and SE orientations, WC_h, WC_c, H_i and C_i shall be determined by treating half of each wall area as though it faces each of the adjacent cardinal directions, e.g., treat NE as half north and half east.

Equations 5.5-2 and 5.5-6 are statistical regression equations that correlate envelope cooling and heating loads, respectively, from thermal transmission and solar gains, as modified by internal gain and mass, to the physical components of the envelope. Seven individual terms are identified for both cooling and heating that correlate variables with physical meaning such as U-values, internal gains, and weather related variables. They are as follows:

1. CLU, CLUO, CLXUO: Terms that correlate cumulative annual cooling loads with thermal transmittance of the wall.

2. CLM: Term that correlates cumulative annual cooling loads with heat capacity of the wall.

3. CLG: Term that correlates cumulative annual cooling loads with internal gains from occupant light and equipment.

4. CLS: Term that correlates cumulative annual cooling loads with incident solar gains.

5. CLC: Term that correlates cumulative annual cooling loads with climate variables for a specific location.

6. HLU, HLUO, HLXUO: Terms that correlate cumulative annual heating loads with thermal transmittance of the wall.

7. HLM: Term that correlates cumulative annual heating loads with heat capacity of the wall.

8. HLG: Term that correlates cumulative annual heating loads with internal gains from occupants, lights, and equipment.

9. HLS: Term that correlates cumulative annual heating loads with incident solar gains.

10. HLC: Term that correlates cumulative annual heating loads with climate variables for a specific location.

The cooling and heating equations with their coefficients follow.

Cooling Equation

$$WC_c \text{ or } C_1 = CLU_i + CLUO_i + CLXUO_i + CLM_i + CLG_i + CLS_i + CLC_i$$

Equation 5.5-2

Where:

i = for each orientation

j = for each wall mass construction type for the orientation

$$CLU = FO \times U_{OW} \times [\, CU1 \times CDH80 + CU2 \times CDH80^2 + CU3 \times (VS \times CDH80)^2 + CU4 \times DR \,]$$

$$CLUO = FC \times UOC \times [\, CUO1 \times EA \times VS \times CDD50 + CUO2 \times G + CUO3 \times G^2 \times EA^2 \times VS \times CDD50 + CUO4 \times G^2 \times EA^2 \times VS \times CDD65 \,]$$

$$CLXUO = FC \times 1/UOC \times [\, CXUO1 \times EA \times VS \times CDD50 + CXUO2 \times EA \times (VS \times CDD50)^2 + CXUO3 \times G \times CDD50 + CXUO4 \times G^2 \times EA^2 \times VS \times CDD50 + CXUO5 \times G^2 \times CDD65 \,]$$

$$CLM = FO_j \times CMC_i \times [\, CM1 + CM2 \times EA \times VS \times CDD50 + CM3 \times EA \times VS \times CDD65 + CM4 \times EA^2 \times VS \times CDD50 + CM5 \times G^2 \times CDD65 + CM6 \times G \times CDD50 + CM7 \times G \times CDD65 + CM8 \times G \times EA \times VS \times CDD50 \,]$$

$$CLG = FC \times \{\, G \times [\, CG1 + CG2 \times CDD50 + CG3 \times EA \times (VS \times CDD50)^2 + CG4 \times EA^2 \times VS \times CDD50 + CG5 \times CDD65 + CG6 \times CDD50^3 + CG7 \times CDD65^3 \,] + G^2 \times [\, CG8 \times EA \times VS \times CDD50 + CG9 \times EA^2 \times VS \times CDD50 \,] \,\}$$

$$CLS = FC \times (EA \times [CS1 + CS2 \times VS \times CDD50 + CS3 \times (VS \times CDD50)^2 + CS4 \times VS \times CDD65 + CS5 \times (VS \times CDD65)^2] + EA^2 \times [CS6 + CS7 \times (VS \times CDD65)^2])$$

$$CLC = FC \times [CC1 \times CDD50 + CC2 \times CDD50^2 + CC3 \times CDH80 + CC4 \times CDH80^2 + CC5 \times CDD65 + CC6 \times (VS \times CDD65)^2 + CC7 \times VS \times CDD50 + CC8 \times (VS \times CDD50)^2 + CC9 \times (VS \times CDH80)^2 + CC10 \times VS + CC11 \times DR + CC12 \times DR^2 + CC13]$$

NOTE: The coefficients for various orientations in the equations listed above are found in Table 5B-2. If WC_c or C_1 is less than 0.0, WC_c or C_1 is set equal to 0.0.

Where:

Climate Data

CDD50 = Cooling degree-days base 50 ^{o}F

CDD65 = Cooling degree-days base 65 ^{o}F

CDH80 = Cooling degree-hours base 80 ^{o}F

DR = Average daily temperature range for warmest month.

VS = Annual average daily incident solar energy on facade under consideration, $Btu/ft^2/day$.

Building Data

FC = Wall area (opaque and glazed) of zone under consideration divided by total wall area (opaque and glazed) of all zones.

FO = Opaque wall area of zone under consideration divided by total wall area (opaque and glazed) of all zones. If multiple mass constructions are present, the FO_j is calculated for each construction j and used to form the area weighted mass correction.

U_{OW} = Area average U-value of opaque walls (including those of mass construction) in zone under consideration.

UOC = Area average U-value of wall (opaque and glazed, evaluated under cooling conditions) in zone under consideration. UOC is equal to UOH.

WWR = Window wall ratio for zone under consideration; defined as fenestration area divided by total wall area (opaque and glazed).

EA = Effective aperature fraction for zone under consideration, where:

$$EA = WWR \times SC_x \times S_{ec}$$

Equation 5.5-3

Where:

S_{ec} = The cooling adjustment factor for horizontal external shading projections:

For $0.0 \leq PF \leq 0.5$ from Equation 5.4-1

For the north orientation:

$$S_{ec} = 1 - 0.4 \times PF$$

Equation 5.5-3a

For the east, south and west orientations:

$$S_{ec} = 1.0 - 1.4877 \times PF + 1.0489 \times PF^2$$

Equation 5.5-3b

G = Effective internal gain (W/ft^2) for zone under consideration, where:

$$G = E_p + L_p \times (1 - R_c \times K_d) + O_l$$

Equation 5.5-4

Where:

L_p = Lighting power, from Section 5.5.7.4

E_p = Equipment power, from Section 5.5.7.5

R_c = The ratio of the electric lights in the same space served by the orientation that have automatic controls for daylighting.

O_l = Occupant load adjustment, from Section 5.5.7.6

$$K_d = 5.871 (WWR \times VLT \times S_{ec}) - 13.311 (WWR \times VLT \times S_{ec})^2$$

Equation 5.5-4a

If $(WWR \times VLT \times S_{ec}) > 0.22$, then $K_d = 0.647$

Where:

WWR = As defined above, but not to exceed a maximum value of 0.65 in Equation 5.5-4a, per Section 5.5.7.3.

VLT = Visible light transmittance of the glazing material, as defined in Section 5.5.2.1, including any shading devices present that modify the visible transmittance of the glazing material.

CMC = Mass correction (Cooling Delta Load Factor) from Equation 5.5-5. If multiple mass constructions are present, each CMC_j is evaluated separately and combined by area weighting. If the U-value of the mass wall is less than 0.05, then $U_{ow} = 0.05$ shall be used to calculate the CMC. If the value of HC is greater than 20, then HC = 20 shall be used to calculate the CMC.

COOLING DELTA LOAD FACTOR EQUATIONS

Equation 5.5-5 is used to predict the Cooling Delta Load Factor values.

CMC = Cooling Delta Load Factor =

$$\left|1 - e^{-CP_1(HC-1)}\right| \cdot \left| CP_2 + CP_3U - \frac{CP_4}{1 + (CP_5 + CP_6U)e^{-(CP_7+CP_8U^2)(HC-1)}} \right| \left| \frac{1.0}{0.7} \right|$$

Equation 5.5-5

Where:

HC = Wall Heat Capacity ($Btu/ft^{2}\cdot{}^{o}F$).

U = Wall U-Value ($Btu/h/ft^{2}\cdot{}^{o}F$).

A = (Cooling degree-hours base 80 ^{o}F)/10000 + 2 ($^{o}F\cdot h$).

B = (Daily Range)/10 + (^{o}F).

Where:

$CP_1 = C_5$

$CP_2 = C_{15}/B^3 + C_{16}/(A^2B^2)+C_{17}$

$CP_3 = C_1/A^3 + C_2B^3 + C_2B^3 + C^3/(A^2\sqrt{B}) + C_4$

$CP_4 = C_{12}/(A^2B^2) + C_{13}/B^3 + C_{14}$

$CP_5 = C_{18}$

$CP_6 = C_6 LN(A)\sqrt{B} + C_7$

LN = Natural Logarithm

$CP_7 = C_{19}/(A^2B^2) + C_{20}/(AB) + C_{21}A^2/\sqrt{B} + C_{22}$

$CP_8 = C_8/(A^2B^2) + C_9/(AB) + C_{10}A^2/\sqrt{B} + C_{11}$

The coefficients C1 through C22 are taken from the following table, Table 5B-1.

HEATING EQUATION

$$WC_h \text{ or } H_1 = \Sigma (HLU_i + HLUO_i + HLXUO_i + HLM_i + HLG_i + HLS_i + HLC_i)$$

Equation 5.5-6

Where:

i = for each orientation

j = for each wall mass construction type for the orientation

$HLU = FO \times U_{ow} \times [\, HU1 \times HDD50 + HU2 \times (VS \times HDD65)^2 \,]$

$HLUO = FC \times UOH \times [\, HUO1 \times HDD50 + HUO2 \times HDD65 + HUO3 \times EA \times VS \times HDD65 \,]$

$HLXUO = FC \times ((1/UOH) \times [\, HXUO1 \times EA \times (VS \times HDD50)^2 + HXUO2 \times EA \times (VS \times HDD65)^2 \,] + (1/UOH^2) \times [\, HXUO3 \times EA^2 \times VS \times HDD65 \,])$

$HLM = FO_j \times HMC_j \times [\, HM1 + HM2 \times G \times UOH \times HDD65 + HM3 \times G^2 \times EA^2 \times VS \times HDD50 + HM4 \times UOH \times EA \times VS \times HDD65 + HM5 \times UOH \times HDD50 + HM6 \times EA \times (VS \times HDD65)^2 + HM7 \times EA^2 \times VS \times HDD65/UOH \,]$

$$HLG = FC \times \left(G \times \left[HG1 \times HDD65 + HG2 \times UOH \times HDD65 + HG3 \times EA \times VS \times HDD65 + HG4 \times EA^2 \times VS \times HDD50 \right] \right) + \left(G^2 \times \left[HG5 \times HDD65 + HG6 \times EA^2 \times VS \times HDD65 \right] \right)$$

$$HLS = FC \times \left(EA \times \left[HS1 \times VS \times HDD65 + HS2 \times (VS \times HDD50)^2 \right] \right) + \left(EA^2 \times \left[HS3 \times VS \times HDD50 + HS4 \times VS \times HDD65 \right] \right)$$

$$HLC = FC \times \left[HC1 + HC2 \times HDD65 + HC3 \times HDD65^2 + HC4 \times VS^2 + HC5 \times VS \times HDD50 + HC6 \times VS \times HDD65 + HC7 \times (VS \times HDD50)^2 \right]$$

NOTE: The coefficients for various orientations in the equations listed above are found in Table 5B-4. If WC_h or H_1 is less than 0.0, WC_h or H_1 is set equal to 0.0.

Where:

Climate Data

HDD50 = Heating degree-days base 50 °F.

HDD65 = Heating degree-days base 65 °F.

VS = Annual average daily incident solar energy on facade under consideration, Btu/ft^2-day.

Building Data

FC = Wall area (opaque and glazed) of zone under consideration divided by total wall area (opaque and glazed) of all zones.

FO = Opaque wall area of zone under consideration divided by total wall area (opaque and glazed) of all zones. If multiple mass constructions are present, the FO_j is calculated for each and used to form the area weighted mass correction.

U_{OW} = Area average U-value of opaque walls (including those of mass construction) in zone under consideration.

UOH = Area average U-value of wall (opaque and glazed, evaluated under heating conditions) in zone under consideration. UOH is equal to UOC.

WWR = Window wall ratio for zone under consideration; defined as fenestration area divided by total wall area (opaque and glazed).

EA = Effective aperature fraction for zone under consideration.

$$EA = WWR \times SC_x \times S_{eh}$$

Equation 5.5-7

Where:

For $0.0 \leq PF \leq 0.5$, from Equation 5.4-1:

For the north orientation:

$$S_{eh} = 1 - 0.3 \times PF$$

Equation 5.5-7a

For the east, south and west orientation:

$$S_{eh} = 1 - 0.986 \times PF + 0.4513 \times PF^2$$

Equation 5.5-8

G = Effective internal gain (W/ft^2) for zone under consideration.

$$G = E_p + L_p \times (1 - R_c \times K_d) + O_l$$

Equation 5.5-8

Where:

L_p = Lighting power, from Section 5.5.7.4.

E_p = Equipment power, from Section 5.5.7.5.

O_l = Occupant load adjustment, from Section 5.5.7.6

R_c = The ratio of the electric lights in the space served by the orientation that have automatic controls for daylighting.

K_d = $5.871 (WWR \times VLT \times S_{eh}) - 13.311 (WWR \times VLT \times S_{eh})^2$

Equation 5.5-8a

If $WWR \times VLT \times S_{eh} > 0.22$, then $K_d = 0.647$

Where:

WWR = As defined above, but not to exceed a maximum value of 0.65 in Equation 5.5-8a per Section 5.5.7.3.

VLT = Visible light transmittance of the glazing material, as defined in Section 5.5.2.1 including any shading devices present that modify the visible transmittance of the glazing material.

HMC = Mass correction from Equation 5.5-9. If multiple mass constructions are present, each HMC_j is evaluated separately and combined by area weighting. If the U-value of the mass wall is greater than 0.40, then $U_{ow} = 0.4$ shall be used to calculate the HMC. If the U-value of the mass wall is less than 0.05, then $U_{ow} = 0.05$ shall be used to calculate the HMC. If the value of HC is greater than 20, then HC = 20 shall be used to calculate the HMC.

HEATING DELTA LOAD FACTOR EQUATIONS

Equation 5.5-9 is used to predict the heating Delta Load Factor values.

$$HMC = \text{Heating Delta Load Factor} = \left|1 - e^{-HP_1(HC-1)}\right| \left| HP_2 + HP_3U - \frac{HP_4}{1 + (HP_5 + HP_6U)e^{-(HP_7+HP_8U^2)(HC-1)}} \right| \frac{1.0}{0.7}$$

Equation 5.5-9

Where:

HC = Wall Heat Capacity ($Btu/ft^{2}\cdot{}^{o}F$)

U = Wall U-Value ($Btu/h\cdot ft^{2}\cdot{}^{o}F$)

A = (Heating degree-days base 65 $^{o}F/100$ + 2 ($^{o}F\cdot days$)

Where:

$HP_1 = H_6$

$HP_2 = H_{14}LN(A)+H_{15}$

LN = Natural Logarithm

$HP_3 = H_1A^3+H_2A^2+H_3/\sqrt{A} + H_4\sqrt{A} + H_5$

$HP4 = H_{11}A^2+H_{12}/A^2+H_{13}$

$HP_5 = H_{16}$

$HP_6 = H_7A+H_8$

$HP_7 = H_{17}/A^3+H_{18}$

$HP_8 = H_9/A^3+H_{10}$

The coefficients H1 through H18 are taken from the following table, Table 58-3.

58.2 Determining Heating and Cooling Criteria Using Equations in Section 58.1

To determine the wall thermal criteria for a building design, the following inputs to the equations in Section 58.1 shall be used.

(1) **Aspect Ratio.** An aspect ratio of 2:1 with longer dimensions facing east and west.

(2) **Shading.** No use of external shading projections or screens.

(3) **Daylight Controls.** No use of automatic daylight controls for the lighting system.

(4) **Internal Gain (G).** The sum of the lighting power density (L_p), the equipment power density (E_p) and the occupant load adjustment (O_l), or 3.0 W/ft^2, whichever is smaller, shall be used. In determining L_p, the value of R_c and VLT shall be set equal to 0.0 in Equations 5.5-4 and 5.5-8.

(5) **Wall Area Factor, Opaque and Glazed (FC).** The combined opaque and glazed area for the orientation for the building design, divided by the total wall area (opaque and glazed) of all orientations, shall be used. Note that if one changes the wall area or floor area in a zone, this changes the geometry of the building. The criteria and compliance values will change for all zones because both values for each zone are weighted by the relative size of that zone.

(6) **Window Wall Ratio (WWR).** The smaller of the values of WWR_c and WWR_h determined from (a) and (b) below shall be used.

(a) Using the value for internal gain (G) determined in (4) above, the WWR_c for cooling by interpolation of

the results of (a) and (b) below, shall be determined using Equation 5.5-10:

Where: WWR_{g0} is the window to wall ratio at 0.0 W/ft^2 internal load ($G = 0.0\ W/ft^2$).

WWR_{g30} is the window to wall ratio at 3.0 W/ft^2 internal load ($G = 3.0\ W/ft^2$).

$$WWR_c = WWR_{g0} - (G / 3.0) \times (WWR_{g0} - WWR_{g30})$$

Equation 5.5-10

For G = 0.0:

If CDD50 x VSEW < 8,000,000, then Equation 5.5-11 shall be used.

$$WWR_{g0} = 0.48 - (CDD50 \times VSEW \times 1.625 \times 10^{-8})$$

Equation 5.5-11

If CDD50 x VSEW $\geq$ 8,000,000, then Equation 5.5-12 be used:

$$WWR_{g0} = 0.34$$

Equation 5.5-12

For G = 3.0:

If CDD50 x VSEW < 8,000,000, then Equation 5.5-13 shall be used:

$$WWR_{g30} = 0.28 - (CDD50 \times VSEW \times 5.0 \times 10^{-9})$$

Equation 5.5-13

If CDD50 x VSEW ≥ 8,000,000, then Equation 5.5-14 shall be used:

$$WWR_{g30} = 0.24$$

Equation 5.5-14

(b) The WWR_h for heating shall be determined using Equation 5.5-15 or Equation 5.5-16.

If HDD65 < 4000, then Equation 5.5-15 shall be used:

$$WRR_h = 0.4 - (HDD65 \times 2.5 \times 10^{-5})$$

Equation 5.5-15

If HDD65 ≥ 4000, then Equation 5.5-16 shall be used:

$$WRR_h = 0.3$$

Equation 5.5 16

(7) **Opaque Wall Area Factor (FO).** The value of FO shall be determined from Equation 5.5-17.

$$FO = FC \times (1 - WWR)$$

Equation 5.5-17

(8) **Shading Coefficient (SC_x).** The value of SC_x shall be determined from (a) or (b) below, or as shown in Figure 58-3.

(a) If the heating degree-days base 65 °F for the building location is ≤ to 3000, either Equation 5.5-18 or Equation 5.5-19 shall be used:

If CDD50 x VSEW < 4,000,000, then Equation 5.5-18 shall be used:

$$SC_x = 0.85 - (CDD50 \times VSEW \times 8.75 \times 10^{-8})$$

Equation 5.5-18

If CDD50 x VSEW $\geq$ 4,000,000, then Equation 5.5-19 shall be used:

$$SC_x = 0.5$$

Equation 5.5-19

(b) If the heating degree days base 65 ^{o}F for the building location is > 3000, either Equation 5.5-20 or Equation 5.5-21 shall be used:

If CDD50 x VSEW < 4,000,000, then Equation 5.5-20 shall be used:

$$SC_x = 0.85 - (CDD50 \times VSEW \times 1.25 \times 10^{-7})$$

Equation 5.5-20

If CDD50 x VSEW $\geq$ 4,000,000, then Equation 5.5-21 shall be used:

$$SC_x = 0.35$$

Equation 5.5-21

(9) **External Shading Projection (S_{eh}).** The value of S_{eh} shall be set equal to 0.0.

(10) **Opaque Wall U-Value (U_{ow}).** The value of U_{ow} shall be determined from either Equation 5.5-22 or Equation 5.5-23, as shown in Figure 5B-4.

If HDD65 < 196, then Equation 5.5-22 shall be used:

$$U_{ow} = 1.0$$

Equation 5.5-22

If HDD65 $\geq$ 196, then Equation 5.5-23 shall be used:

$$U_{OW} = 42.787 \times HDD65^{(-0.712)}$$

Equation 5.5-23

(11) **Heat Capacity of Opaque Wall (HC).** The value of HC shall be set equal to 1.0.

(12) **Fenestration Assembly U-Value (U_{of}).** The value of U_{of} shall be determined from either Equation 5.5-24, 5.5-25, or 5.5-26; or as shown in Figure 5B-5.

If HDD65 < 3000, then Equation 5.5-24 shall be used:

$$U_{of} = 1.15$$

Equation 5.5-24

If HDD $\geq$ 3000 and HDD65 < 7500, then Equation 5.5-25 shall be used:

$$U_{of} = 0.81 - [(HDD65 - 3000) \times 8.0 \times 10^{-5}]$$

If HDD $\geq$ 7500, then Equation 5.5-26 shall be used:

$$U_{of} = 0.45$$

Equation 5.5-26

(13) For all other inputs to the equations in Section 5B.1, the values for the building envelope design under consideration shall be used.

Table 58-1
COOLING DELTA LOAD COEFFICIENTS

COEFFICIENT LABEL	INSULATION POSITION		
	EXTERIOR	INTEGRAL	INTERIOR
C1	220.724503	139.105667	181.616776
C2	-.056589	-.033991	-.055196
C3	-118.835388	-10.326704	-34.158966
C4	-13.674420	-20.867386	-25.591934
C5	.236381	.283882	.081029
C6	.959588	.305851	1.418998
C7	-.255004	.022622	.432421
C8	-905.677979	-307.943848	-1882.926758
C9	425.191895	80.209610	443.195801
C10	-2.510600	.049955	.430200
C11	-43.387955	-5.989545	-28.285065
C12	-259.723389	-11.396114	-63.562256
C13	-33.975525	.366851	20.844650
C14	20.488235	30.253494	9.817521
C15	-26.209152	8.833706	24.459824
C16	-241.173386	-22.254623	-70.337494
C17	18.897781	29.329697	9.884280
C18	-.353790	-.023878	-.114646
C19	156.305634	63.322754	326.344727
C20	-74.098999	-16.334656	-77.635498
C21	.445363	-.011114	-.074788
C22	7.496696	1.295576	5.204088

TABLE 58-2
COOLING COEFFICIENTS

	NORTH	EAST	SOUTH	WEST
CU1	0.001539	0.003315	0.003153	0.00321
CU2	-0.308548E-07	-0.896618E-07	-0.712993E-07	-0.810530E-07
CU3	0.799493E-13	0.379280E-13	0.183083E-13	0.339810E-13
CU4	-0.079647	0.163114	0.286458	0.11178
CM1	0.32314	0.515262	0.71477	0.752643
CM2	0.153060E-05	0.138197E-05	0.161630E-05	0.142228E-05
CM3	-0.204322E-05	-0.160240E-05	-0.211063E-05	-0.197938E-05
CM4	-0.753665E-06	-0.767849E-06	-0.664430E-06	-0.740067E-06
CM5	-0.100472E-05	0	0.801057E-05	0.315193E-05
CM6	0.366708E-04	0.356503E-04	0.448106E-04	0.296012E-04
CM7	-0.673045E-04	-0.640938E-04	-0.000119	-0.766719E-04
CM8	-0.238335E-07	-0.472534E-07	-0.497469E-07	0
CUO1	-0.651094E-05	-0.838669E-05	-0.888996E-05	-0.756465E-05
CUO2	-1.040207	-1.507235	-1.512625	-1.238545
CUO3	-0.438254E-05	-0.278828E-05	-0.231352E-05	-0.412567E-05
CUO4	0.126580E-04	0.809874E-05	0.736219E-05	0.106712E-04
CXUO1	0.103744E-05	0.119338E-05	0.118588E-05	0.123251E-05
CXUO2	-0.132180E-12	-0.134656E-12	-0.116252E-12	-0.130002E-12
CXUO3	0.275554E-04	0.202621E-04	0.202365E-04	0.236964E-04
CXUO4	0.974090E-07	0.117514E-06	0.939207E-07	0.136276E-06
CXUO5	-0.118247E-04	-0.909694E-05	-0.909192E-05	-0.111077E-04
CG1	0.891286	0.583388	0.393756	0.948654
CG2	0.001479	0.001931	0.002081	0.001662
CG3	-0.552042E-12	-0.282139E-12	-0.284766E-12	-0.455720E-12
CG4	0.252311E-05	0.370821E-05	0.430536E-05	0.591511E-05
CG5	-0.001151	-0.001745	-0.001864	-0.00153
CG6	0.195243E-11	0	-0.296055E-11	0.316358E-11
CG7	-0.835805E-11	0.101089E-10	0.330027E-10	0
CG8	0.141022E-05	0.753875E-06	0.713300E-06	0.970752E-06
CG9	-0.238887E-05	-0.164961E-05	-0.163927E-05	-0.197363E-05
CS1	46.9871	33.9683	18.32016	29.3089
CS2	0.348091E-04	0.374118E-04	0.340490E-04	0.502498E-04
CS3	0	0	0.271313E-11	0
CS4	-0.166409E-04	0.694779E-05	-0.282181E-04	-0.277158E-04
CS5	0.842765E-11	0	-0.304677E-11	0.291137E-11
CS6	-56.5446	0	26.9954	14.9771
CS7	-0.134764E-10	-0.588097E-11	-0.650089E-11	-0.789218E-11

TABLE 58-2 (Continued)
COOLING COEFFICIENTS

	NORTH	EAST	SOUTH	WEST
CC1	0.002747	0	0.010349	0.001865
CC2	0	0.318928E-06	-0.304413E-06	0
CC3	-0.000348	0.000319	0.00024	0.000565
CC4	0.122123E-07	-0.775318E-07	-0.271443E-07	-0.544380E-07
CC5	0.012112	0.011894	0.013248	0.009236
CC6	0.104027E-11	-0.622661E-12	-0.205178E-11	0
CC7	-0.124013E-04	-0.706280E-05	-0.165377E-04	-0.602685E-05
CC8	0	0	0.820869E-12	0
CC9	-0.375797E-13	0.606235E-13	0.197598E-13	0.389425E-13
CC10	0.030056	0.023121	0.0265	0.01704
CC11	0	0	-0.271026	-0.244274
CC12	0.002138	0.001103	0.006368	0.007323
CC13	-12.8674	-13.16522	-18.271	-10.1285

Table 58-3
HEATING DELTA LOAD COEFFICIENTS

COEFFICIENT LABEL	INSULATION POSITION		
	EXTERIOR	INTEGRAL	INTERIOR
H1	.000006	.000007	.000006
H2	-.001537	-.001799	-.001492
H3	13.388575	15.116148	19.831360
H4	1.933217	2.105596	1.457923
H5	-11.896660	-13.305299	-15.562034
H6	.464317	.183966	.071887
H7	.009447	.025504	.026392
H8	-.099954	.045871	.775432
H9	-1223.396240	-622.080078	.200792
H10	-.945353	-.519158	-.637875
H11	-.000067	-.000069	-.000007
H12	3.858493	4.137914	2.424339
H13	7.582887	6.238024	7.980392
H14	-.777369	-.771123	-.169907
H15	9.014718	7.722863	8.585447
H16	.200680	.208271	-.038589
H17	206.638214	105.984894	3.139744
H18	.257293	.198297	.186262

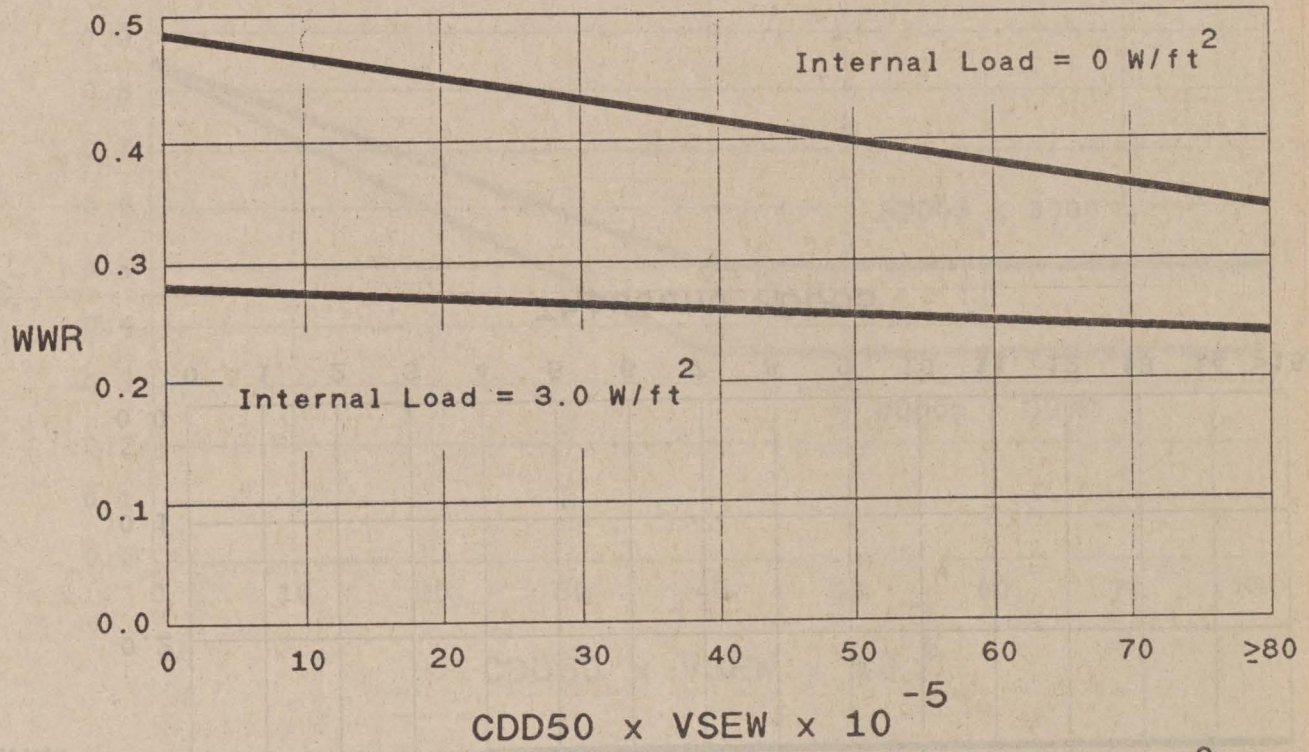
Table 5B-4
HEATING COEFFICIENTS

	NORTH	EAST	SOUTH	WEST
HU1	0.006203	0.007691	0.006044	0.006672
HU2	-0.135868E-11	-0.571616E-12	-0.268998E-12	-0.435663E-12
HM1	0.531005	0.545732	0.837901	0.616936
HM2	0.000152	0.000107	0.000208	0.00015
HM3	-0.531826E-06	-0.106191E-06	-0.682531E-06	-0.264566E-06
HM4	-0.773813E-06	-0.147870E-05	0.211938E-05	-0.457827E-06
HM5	-0.000712	-0.000484	-0.001042	-0.000625
HM6	0.334859E-12	0.495762E-13	0.770190E-13	0.737105E-13
HM7	0.239071E-06	0.275045E-06	-0.389887E-06	0
HUO1	0.004943	0.008683	0.009028	0.008566
HUO2	0.013686	0.011055	0.010156	0.01146
HUO3	-0.110178E-04	-0.868956E-05	-0.732317E-05	-0.898665E-05
HXUO1	0.126940E-11	0.785644E-13	-0.282023E-12	0.304904E-13
HXUO2	-0.730582E-12	-0.810900E-13	0.745599E-13	-0.747184E-13
HXUO3	0.197090E-06	0.194026E-06	0.987587E-07	0.195776E-06
HG1	-0.001051	-0.000983	-0.000981	-0.000948
HG2	-0.001063	-0.00093	-0.000815	-0.000975
HG3	0.299013E-05	0.262269E-05	0.241880E-05	0.249976E-05
HG4	0.749049E-06	-0.111056E-05	-0.216687E-05	-0.856049E-06
HG5	0.000109	0.934310E-04	0.975523E-04	0.862389E-04
HG6	-0.555914E-06	-0.315801E-06	-0.260999E-06	-0.291334E-06
HS1	-0.218248E-04	-0.209216E-04	-0.210885E-04	-0.202049E-04
HS2	0.339179E-11	0.190500E-11	0.148388E-11	0.218215E-11
HS3	-0.653253E-05	-0.223413E-04	-0.184726E-04	-0.240488E-04
HS4	0.223087E-04	0.241331E-04	0.245412E-04	0.230538E-04
HC1	-0.106468	-5.19297	-3.66743	-5.29681
HC2	0.00729	0.007684	0.007175	0.007672
HC3	-0.297600E-06	-0.307837E-06	-0.264192E-06	-0.307127E-06
HC4	0.201569E-05	0.630350E-05	0.332112E-05	0.643491E-05
HC5	0.129061E-04	0.477552E-05	0.325089E-05	0.483233E-05
RC6	-0.128594E-04	-0.618539E-05	-0.463086E-05	-0.625101E-05
HC7	0.275861E-11	0.820051E-12	0.438148E-12	0.809106E-12

Figure 5B-1

Maximum Window to Wall Ratio

Cooling



Note: use linear interpolation for internal loads $0 < W/ft^2 < 3.0$

Figure 5B-2
Maximum Window to Wall Ratio
Heating

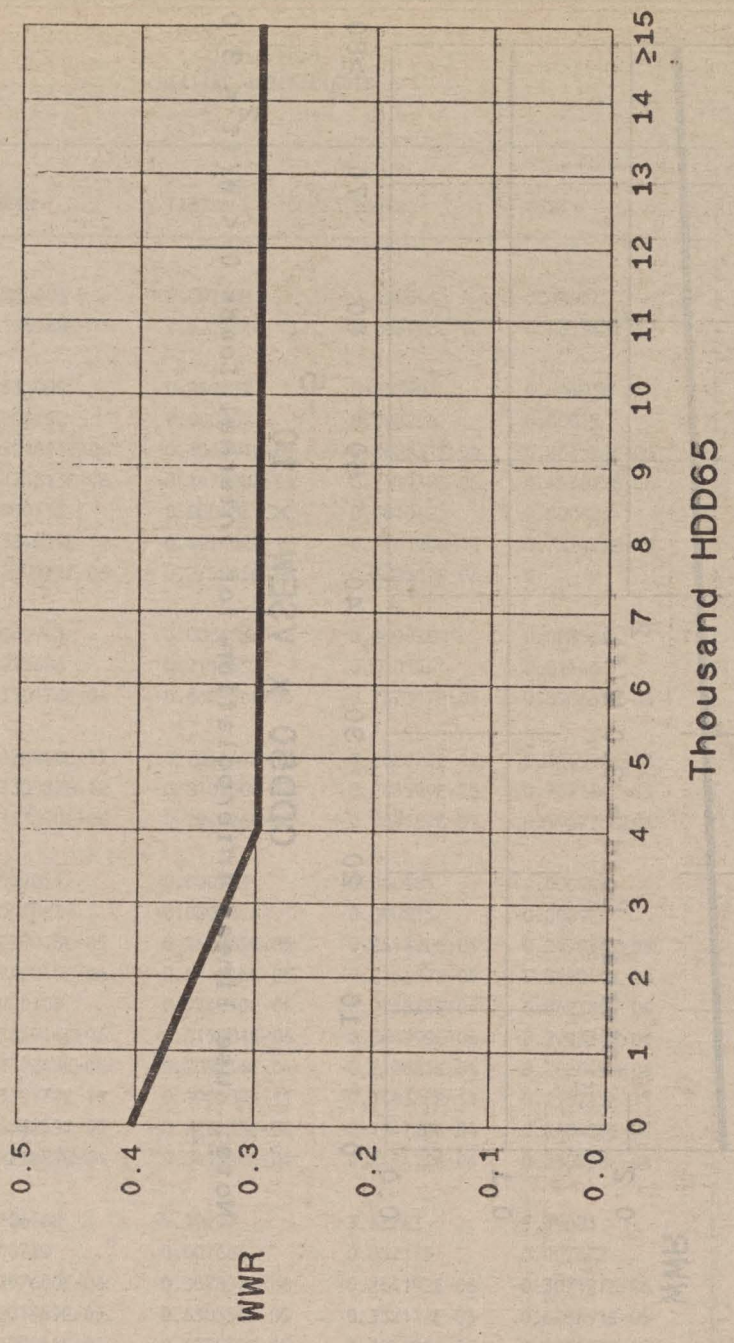


Figure 5B-3

Maximum Shading Coefficient

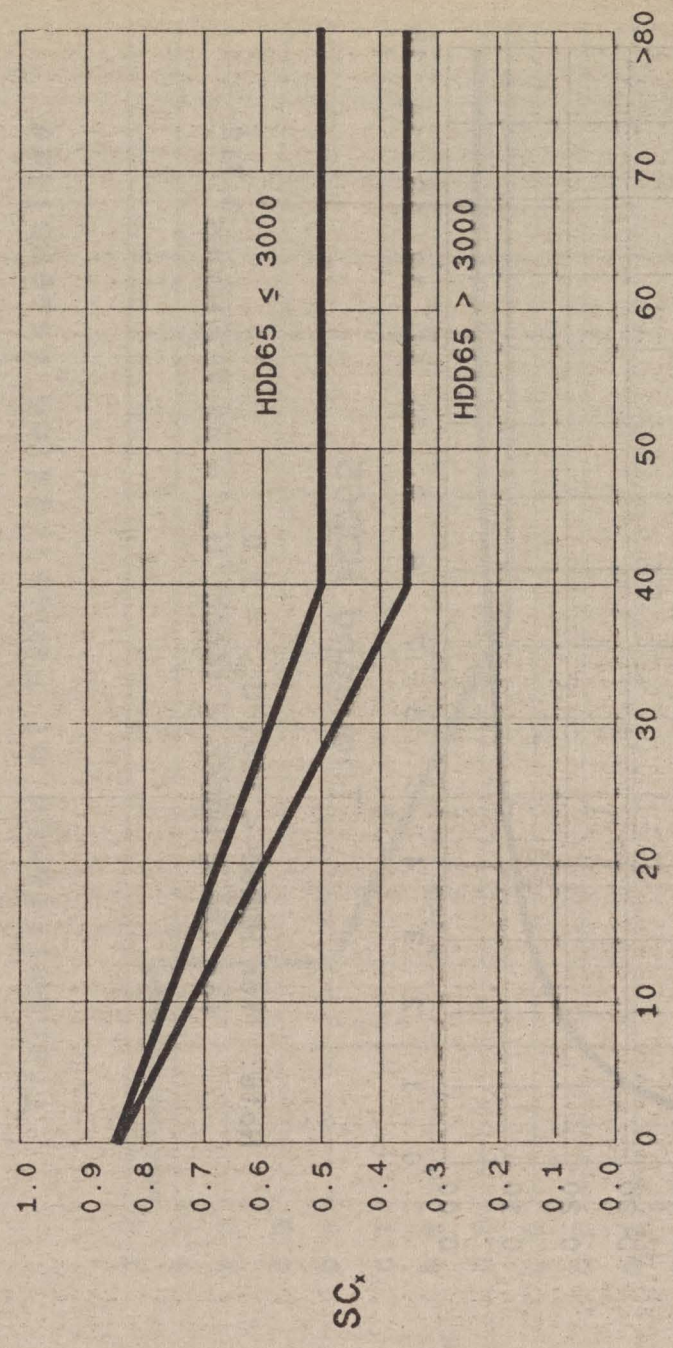
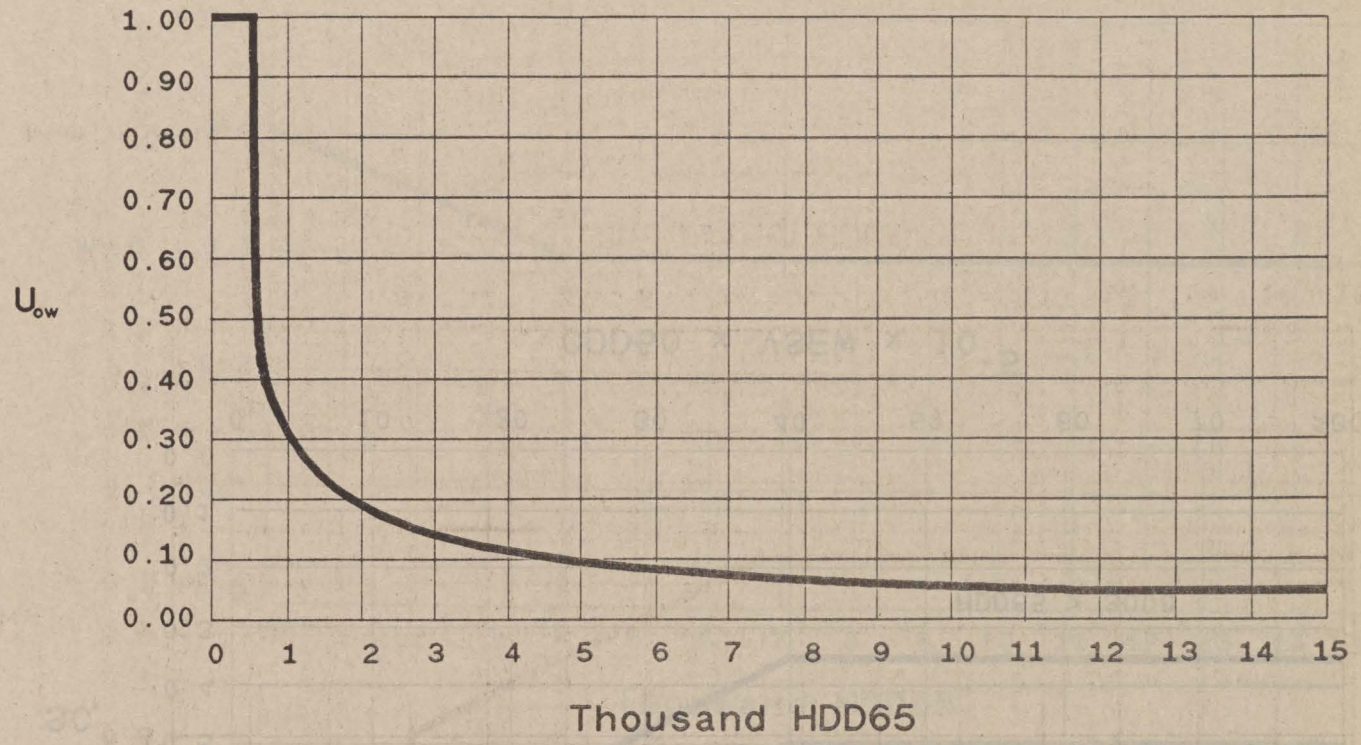


Figure 5B-4

Overall Thermal Transmittance of Opaque Wall Sections

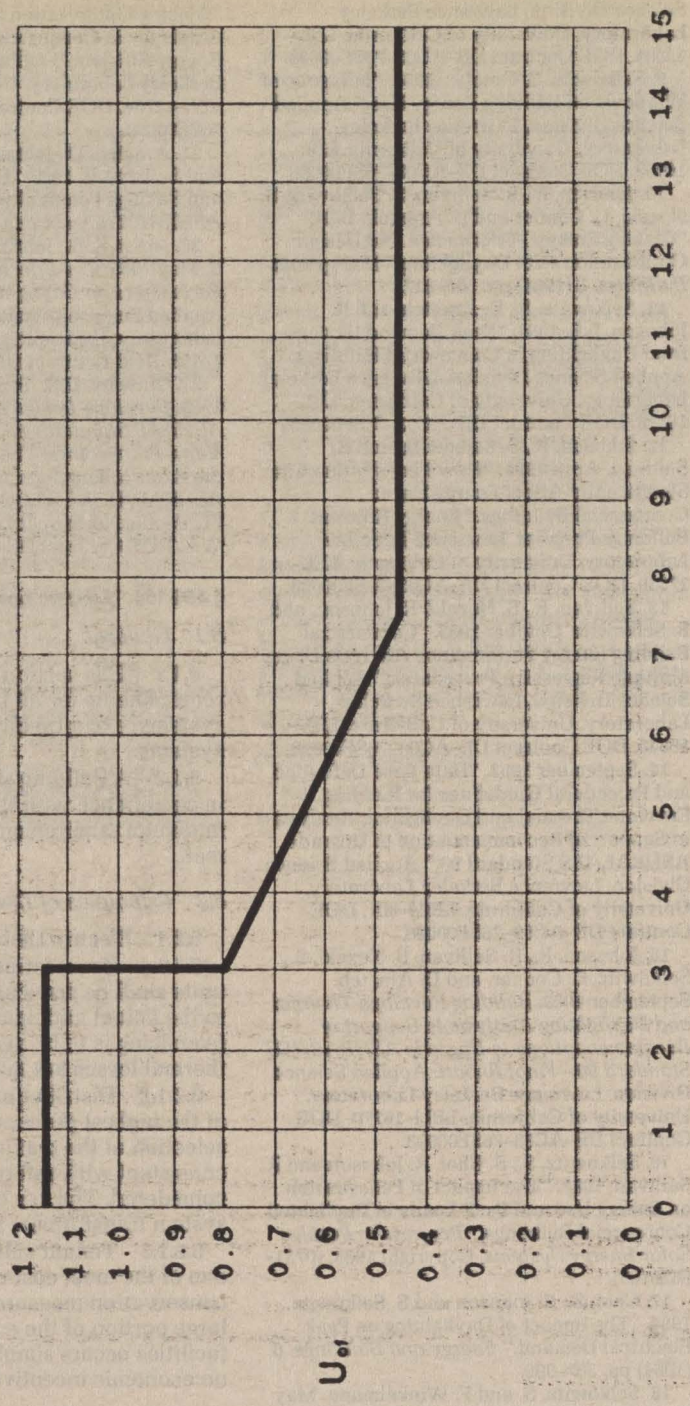


Note: for HDD65 < 196, $U_{ow} = 1.0$

for $196 \leq HDD65 \leq 15000$, $U_{ow} = 42.787/HDD65^{0.712}$

Figure 5B-5

Maximum Overall Thermal Transmittance of Fenestration Assemblies



BILLING CODE 6450-01-C

Attachment 5C to § 435.105 Bibliography

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Volume 2: Description of the Development Process; Appendix A: Envelope Research Documentation.

Volume 3: Description of the Testing Process; Appendix B: Envelope Compliance Code Documentation.

Volume 4: Documentation of Test Results: (Each in 3 volumes): A: Small Office Building (Branch Bank); B: Medium Office Building; C: Large Office Building; D: Retail Store (Anchor Store); E: Strip Store; F: Apartment House; G: Hotel; H: Warehouse; I: Assembly Building (Church); J: School.

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§ 435.106 Electric power and distribution.

6.1 General

6.1.1 This section contains minimum requirements for all building electrical systems, except required emergency systems.

6.1.2 A building shall be considered in compliance with this section if the minimum requirements of Section 6.3 are met.

6.2 Principles of Design

6.2.1 Electric Distribution Systems

6.2.1.1 Transformers and generating units shall be sized as close as possible to the actual anticipated load (i.e., oversizing is to be avoided so that fixed thermal losses are minimized).

6.2.1.2 Distribution of electric power at the highest practical voltage and load selection at the maximum power factor consistent with safety shall be considered. The use of distribution system transformers shall be minimized.

6.2.1.3 Tenant submetering can be one of the most cost-effective energy conservation measures available. A large portion of the energy use in tenant facilities occurs simply because there is no economic incentive to conserve.

6.3 Minimum Requirements

6.3.1 Electrical Distribution System

6.3.1.1 All commercial or multi-family high rise residential buildings, having designed connected electric service over 250 kVA, shall have electrical energy consumption check metered on the basis of usage category or tenant occupancy, depending on conditions defined below. For buildings that are occupied by multiple tenants, the metering shall be per tenant, if the

tenant has a connected load of 100 kVA or more. HVAC and service hot water systems, shared among tenants, need not meet this requirement but shall be separately metered.

6.3.1.2 The electrical power feeders for each facility for which check-metering is required shall be by tenant and shall be subdivided in accordance with the following categories:

6.3.1.2.1 Lighting and receptacle outlets;

6.3.1.2.2 HVAC and service water heating systems and equipment; and

6.3.1.2.3 Special occupant equipment or systems of more than 20 kW, such as elevators, computer rooms, kitchens, printing equipment, and baling presses.

6.3.1.2.4 *Exception to Section 6.3.1.2:*

(a) 10% or less of the loads on a feeder may be from another usage category.

6.3.1.3 The power feeders for each category shall contain portable or permanent submetering prior to or within any primary or secondary distribution panels. Such provisions shall include a separate compartment or panel of adequate size and design to house the necessary voltage and current transformers. An accessible means of attaching clamp-on meters or split-core current transformers shall be provided.

6.3.1.4 The locations of these points of measurement may be central or distributed throughout the building, as appropriate to the layout of the building. A minimum arrangement shall provide a safe method for access to the enclosures through which feeder conductors pass, and have sufficient space to attach clamp-on or split-core current transformers. These enclosures may be separate compartments or combined with electrical cabinets serving another function. Enclosures so furnished shall be identified by available measuring function. A preferred arrangement would include kWh meters and demand registers, or a means to transmit such information to a building energy management control system.

6.3.1.5 In multiple-tenant buildings, where designed connected electrical service is over 250 kVA, each tenant space having a total connected load of more than 100 kVA shall have provision made to permit check-metering of the total tenant load. If the building is served by a common HVAC system, the HVAC loads need not be check metered for each tenant.

6.3.2 Transformers

6.3.2.1 All permanently wired transformers, that are part of the building electrical distribution system, except utility-owned transformers, shall be selected to minimize the combination of no-load, part-load, and full-load losses, without compromising the electrical system operating and reliability requirements.

6.3.2.2 If the total capacity of the transformers exceeds 300 kVA, a calculation of total estimated annual operating costs of the transformer losses shall be made. This calculation shall be based on estimated hours of transformer operation at projected part-load and full-load conditions, and the associated transformer core and coil losses. If appropriate data for projecting this calculation is unavailable, use Form 6.3–1 "Transformer Loss Calculation Estimate" as a basis for making the estimate. The calculations made in accordance with this section shall be used to compare among types of transformers and configurations available to the designer to balance energy costs with necessary operating flexibility, reliability (redundancy), and safety. The projected annual energy costs for the losses of the selected arrangement shall be retained as part of the electrical design documentation.

FORM 6.3-1

TRANSFORMER LOSS CALCULATION ESTIMATE

Transformer Number _____

Rated Temperature Rise _____

Cooling Medium _____

1.	kVA	x	2. 0.	=	3. kW x 8760h	=	4.	kWh
(Full-load Rating)		x	(No load Loss)	=	(No load kW) x 8760h	=	(Annual no load Loss)	
5.	h	x	0.1	x	6. kW	=	7.	kWh
(Annual h of operation @ 10% to 50% of load)		x	0.1	x	(Rated full load coil losses)	=	(Annual part load @ 10% to 50%)	
8.	h	x	0.5	x	9. kW	=	10.	kWh
(Annual h of operation @ 50% to 80% of load)		x	0.5	x	(Rated full load coil losses)	=	(Annual part load @ 50% to 80%)	
11.	h	x	0.8	x	12. kW	=	13.	kWh
(Annual h of operation @ 80% to 100% of load*)		x	8.0	x	(Rated full load coil losses)	=	(Annual part load @ 80% to 100%)	
					Total	=	14.	kWh
							(Total annual full and part load losses)	
15.	kWh	x			16 $ /kWh	=	17. $	
(Total annual full and part load losses)		x			(Average cost of electricity per kWh)	=	(Total annual cost of transformer losses)	

* If transformers are expected to operate regularly (by means of external cooling) at ratings above full-load kVA, a more precise loss calculation procedure is required.

6.3.3 Electric Motors

6.3.3.1 All permanently wired polyphase motors of 1 hp or more serving the building, shall meet the requirements of this section. Motors expected to operate more than 500 hours per year shall have a minimum acceptable nominal full-load motor efficiency no less than that shown in Table 6.3–1.

6.3.3.1.1 Table 6.3–1 applies to motors having nominal 1200, 1800, or 3600 RPM; with open, drip-proof, or TEFC enclosures. Other motor types are exempted from the minimum efficiency requirements of these standards.

6.3.3.1.2 Motor efficiency ratings shall be based on a statistically valid quality control procedure conforming with *ANSI/IEEE 112–1984, Test Method B (Dynamometer)* using *NEMA MG 1–1987* (MG 1–12.54 and MG 1–12.55) for motors below 500 hp. For motors 500 hp and above, *ANSI/IEEE 112–1984, Test Method B or Method F* (Equivalent Circuit Calculation), shall be used.

6.3.3.1.3 Values listed in Table 6.3–1 are nominal efficiencies. Minimum motor efficiencies shall not be less than the corresponding values provided in *NEMA MG 1–12.54.*

TABLE 6.3-1
MINIMUM ACCEPTABLE FULL-LOAD MOTOR EFFICIENCIES FOR SINGLE SPEED POLYPHASE MOTORS[1]

HORSEPOWER	MINIMUM RATES EFFICIENCY PERCENT
1-4	78.5
5-9	84.0
10-19	85.5
20-49	88.5
50-99	90.2
100-124	91.7
125 and above	92.4

1 Motors operating more than 750 hours per year are likely to be cost-effective with efficiencies greater than those listed. The more efficient motors are classified by most manufacturers as "high-efficiency," and are presently available for common applications with typical nominal efficiencies of: 5hp, 89.5%; 10hp, 91.0%; 50hp, 94.1%; 100hp, 95.1%; 200hp, 96.2%. Guidance for evaluating the cost effectiveness of high efficiency motor applications is given in NEMA MG 10-83 (name).

6.3.3.1.4 Motor efficiency shall be tested using a statistically valid quality control procedure conforming with the *IEEE 112A, Test Method B (1978)* (Dynmometer) fan motors E below 500 hp, or *Test Method F (1978)* (Equivalent Circuit Calculation) based on no-load measurements for motors 500 hp and larger.

6.3.3.2 Motor nameplates shall list the minimum and the nominal full-load motor efficiencies and the full-load power factor.

6.3.3.3 Full-load motor power factor for three-phase motors can be calculated from nameplate data by Equation 6.3–1:

% Power Factor = (hp × 745 × 100)/(nominal efficiency × full-load amps × rated voltage × $3^{0.5}$).

Equation 6.3–1

6.3.3.4 Motor horsepower rating shall not exceed 125% of the calculated maximum load being served, or the next larger standard motor size if a standard rating does not fall within this range.

6.3.4 Operation and Maintenance of Electrical Systems

6.3.4.1 The designer shall specify that building owners be provided with written information that provides basic data relating to the design, operation, and maintenance of the electrical distribution system for the building. This shall include:

6.3.4.1.1 a single-line diagram of the "as-built" building electrical system;

6.3.4.1.2 schematic diagrams of electrical control systems (other than HVAC, covered elsewhere);

6.3.4.1.3 manufacturers' operating and maintenance manuals on active electrical equipment; and

6.3.4.1.4 the Transformer Loss Calculation Estimate if required by Section 6.3.2.2.

§ 435.107 Heating, Ventilation, and Air-Conditioning (HVAC) systems.

7.1 General

7.1.1 This section contains minimum and prescriptive requirements for the design of HVAC systems. It is recommended that the designer evaluate other energy conservation measures that may be applicable to the proposed design.

7.1.2 A building shall be considered in compliance with this section if the following conditions are met:

7.1.2.1 The minimum requirements of Section 7.3 are met; and

7.1.2.2 The HVAC system design complies with the prescriptive criteria of section 7.4. For the design of HVAC systems that incorporate innovative or alternate design strategies, the compliance paths set forth in Section 11.0 or 12.0 should be used.

7.2 Principles of Design

7.2.1 Control of Equipment Loads

7.2.1.1 The thermal impact of equipment and appliances shall be minimized by use of hoods, radiation shields, or other confining techniques, and by use of controls to assure that such equipment is turned off when not needed. In addition, major heat-generating equipment shall, where practical, be located where it can balance other heat losses. For example, computer centers or kitchen areas could be located in the north or northwest perimeter areas of buildings depending on climate and prevailing wind directions. In addition, heat recovery shall be specifically considered for this equipment.

7.2.2 HVAC System Design

7.2.2.1 Separate HVAC systems shall be considered to serve areas expected to operate on widely differing operating schedules or design conditions. For instance, systems serving office areas should generally be separate from those serving retail areas. When a single system serves a multi-tenant building, provisions shall be made to shut-off or set-back the heating and cooling to each area independently.

7.2.2.2 Spaces with relatively constant and weather-independent loads may be served with systems separate from those serving perimeter spaces. Areas with special temperature or humidity requirements, such as computer rooms, shall be served by systems separate from those serving areas that require comfort heating and cooling only, alternatively, these areas shall be served by supplementary or auxiliary systems.

7.2.2.3 The supply of zone cooling and heating shall be sequenced to prevent the simultaneous operation of heating and cooling systems for same space. Where this is not possible due to ventilation or air circulation requirements, air quantities shall be reduced as much as possible before reheating, recooling, or mixing hot and cold air streams. Finally, supply air temperature shall be reset to extend economizer operations and to reduce reheat, recool, or mixing losses.

7.2.2.4 Systems serving areas with significant internal heat gains (lighting, equipment, and people), especially interior zones with little or no exposure to outside air, shall be designed to take advantage of mild or cool weather conditions to reduce cooling energy if heat recovery systems are not used. These systems, called air or water economizers, shall be designed to

provide a partial reduction in cooling loads even when mechanical cooling must be used to provide the remainder of the load. Economizer controls shall be integrated with the mechanical cooling (leaving air temperature) controls so that mechanical cooling is only operated when necessary and so supply air is not overcooled to a temperature below the desired supply temperature. The systems and controls shall be designed so that economizer operation does not increase heating energy use. For instance, single fan dual duct or multizone systems that use the same mixed air plenum for both heating and cooling supplies shall not be used.

7.2.2.5 Controls shall be provided to allow systems to operate in an occupied mode and an unoccupied mode. In the occupied mode, controls shall provide for a gradually changing control point as system demands change from cooling to heating. In the unoccupied mode, ventilation and exhaust systems shall be shut off if possible, and comfort heating and cooling systems shall be shut off except to maintain "setback" space conditions. The setback conditions shall be the minimum and maximum levels required to prevent damage to the building or its contents and provide for a reasonable morning pick-up period. Note however that night setback may not conserve energy in buildings with large amounts of thermal mass.

7.2.2.6 In areas where diurnal temperature swings and humidity levels permit, the judicious coupling of air distribution systems and building structural mass may be considered to allow the use of night-time precooling to reduce the use of day-time mechanical cooling.

7.2.2.7 High ventilation, such as in hospital operating rooms, can impose enormous heating and cooling loads on HVAC equipment. In these cases, consideration shall be given to the use of recirculating filtered and cleaned air, rather than 100% outside air, and pre-heating outside air with solar systems or reclaimed heat from other sources.

7.2.3 Energy Transport Systems

7.2.3.1 Energy shall be transported by the most energy efficient means possible. The following options, are listed in order of efficiency from the (most efficient) lowest energy transport burden to the highest:

7.2.3.1.1 Electric Wire or Fuel Pipe,

7.2.3.1.2 Two-Phase Fluid Transfer (Steam or Refrigerant),

7.2.3.1.3 Single-Phase Liquid Fluid (Water, Glycol, Etc.), and

7.2.3.1.4 Air.

7.2.3.2 The distribution system shall be selected to complement other system parameters such as control strategies, storage capabilities, and conversion and utilization system efficiencies.

7.2.3.3 Steam Systems

7.2.3.3.1 Provisions for seasonal or "non-use time" shutdown shall be incorporated.

7.2.3.3.2 The venting of steam and ingestion of air shall be minimized with the design directed toward full vapor performance.

7.2.3.3.3 Subcooling shall generally be prevented.

7.2.3.3.4 Condensate shall be returned to boilers or source devices at the highest possible temperature.

7.2.3.4 Water Systems

7.2.3.4.1 Design flow quantity shall be minimized by designing for the maximum practical temperature differential.

7.2.3.4.2 Flow quantity shall be varied with load where possible.

7.2.3.4.3 Designs shall be for lowest practical pressure rise (or drop).

7.2.3.4.4 Operating and idle control modes shall be provided.

7.2.3.4.5 When locating equipment, the critical pressure path shall be identified and the runs sized for minimum practical pressure drop.

7.2.3.5 Air Systems

7.2.3.5.1 Air flow quantity shall be minimized by careful load analysis and an effective distribution system. If the psychometric nature of the application allows, the supply air quantity shall vary with the sensible load (i.e., VAV systems). The fan pressure requirement shall be held to the lowest practical value. Fan pressure shall be avoided as a source for control power.

7.2.3.5.2 Each fan system shall be designed and controlled to reduce mechanical cooling requirements by taking advantage of favorable weather conditions.

7.2.3.5.3 "Normal" and "idle" control modes shall be provided for the fan systems as well as the psychometric systems.

7.2.3.5.4 Duct run distances shall be as short as possible, and the runs on the critical pressure path sized for minimum practical pressure drop.

7.2.4 Radiant Heating

7.2.4.1 Radiant heating systems shall be considered in lieu of convective or all-air heating systems to heat areas which experience infiltration loads in excess of two (2) air changes per hour at design heating conditions.

7.2.4.2 Radiant heating systems should be considered for areas with high ceilings, for spot heating, and for other applications where radiant heating may be more energy efficient than convective or all-air heating systems.

7.2.5 Energy Recovery

7.2.5.1 Systems that recover energy should be considered when rejected fluid is of adequate temperature and a simultaneous need for energy exists for a significant number of operating hours.

7.3 Minimum Requirements

7.3.1 Calculation Procedures

7.3.1.1 Heating and cooling system design loads for the purpose of sizing systems and equipment shall be determined in accordance with the procedures described in the *ASHRAE Handbook, 1985 Fundamentals Volume*, or a similar computation procedure. The design parameters specified in sections 7.3.1.2 through 7.3.1.10 shall be used for calculational purposes only and are not requirements or recommendations for operating setpoints.

7.3.1.2 *Indoor Design Conditions.* Indoor design temperature and humidity conditions for general comfort applications shall be in accordance with the comfort criteria established in *ANSI/ASHRAE Standard 55–1981*, "Thermal Environmental Conditions for Human Occupancy," and/or Chapter 8 of the *ASHRAE Handbook, 1985 Fundamentals Volume*, except that winter humidification and summer dehumidification are not required.

7.3.1.2.1 *Exceptions to Section 7.3.1.2:*

(a) Health care institutions and similar facilities where the indoor conditions may not be appropriate for the health and safety of occupants; and

(b) Where special room temperature and/or humidity conditions are required by a process or procedure, other than comfort, such as rooms used for surgery or data processing.

7.3.1.3 *Outdoor Design Conditions.* Outdoor design conditions shall be selected for listed locations from the *ASHRAE Handbook, 1985 Fundamentals Volume*, from the columns of 99% values for heating design and 2.5% values for cooling design. Local weather data from the National Weather Service of the National Oceanic and Atmospheric Administration based on the same 99% and 2.5% values (or statistically similar annualized values such as 0.2% winter and 0.5% summer) may be used.

7.3.1.3.1 *Exception to Section 7.3.1.3:*

(a) Where necessary to assure the prevention of damage to the building or to material and equipment within the building, the median of annual extremes for heating and 1% column for cooling may be used.

7.3.1.4 *Ventilation.* Outdoor air ventilation rates shall be selected from section 6.1 of *ASHRAE Standard 62–1981,* "Ventilation for Acceptable Indoor Air Quality."

7.3.1.4.1 *Exception to Section 7.3.1.4:*

(a) Outdoor air quantities, exceeding those shown in *ASHRAE Standard 62–1981,* required because of special occupancy or process requirements, source control of air contamination, or local codes.

7.3.1.5 *Infiltration.* Infiltration for heating and cooling design loads shall be calculated by the procedures in the *ASHRAE Handbook, 1985 Fundamentals Volume,* or a similar computation procedure.

7.3.1.6 *Envelope.* Building envelope heating and cooling loads shall be based on envelope characteristics, such as thermal conductance, shading coefficient and air leakage, consistent with the values used in the proposed building design to demonstrate compliance with section 5.0.

7.3.1.7 *Lighting.* Lighting loads shall be based on proposed design lighting levels or power budgets consistent with section 3.0. Lighting may be ignored for heating load calculations.

7.3.1.8 *Other Loads.* Other HVAC system loads, such as those due to people and equipment, shall be based on design data compiled from at least one of the following sources:

7.3.1.8.1 Actual information based on the intended use of the building;

7.3.1.8.2 Published data from manufacturers' technical publications and from technical society publications such as the *ASHRAE Handbook, 1987 HVAC Systems Applications Volume;*

7.3.1.8.3 Alereza, "Estimates of Recommended Heat Gains Due to Commercial Appliances and Equipment," *ASHRAE Transactions 90 (Pt. 2A), 25–28* (1984);

7.3.1.8.4 Default values to be used in determining the design energy budget in section 11.0 or 12.0 taken from Tables 11–2, 11–3, 11–4 and 11–6; and

7.3.1.8.5 Other data based on designer's experience of expected loads and occupancy patterns.

7.3.1.8.6 *Exception to Section 7.3.1.8:*

(a) Internal heat gains may be ignored for heating load calculations.

7.3.1.9 *Safety Factor.* Design loads may, at the designer's option, be increased by as much as 10% to account for unexpected loads or changes in space usage.

7.3.1.10 *Pick-up Loads.* Transient loads such as warm-up or cool-down loads that occur after off-hour setback or shutoff, may be calculated from basic principles, based on the heat capacity of the building and its contents, the degree of setback, and desired recovery time, or may be assumed to be up to 30% for heating and 10% for cooling of the steady-state design loads.

7.3.2 System and Equipment Sizing

7.3.2.1 HVAC systems and equipment shall be sized to provide no more than the space and system loads require, as calculated in accordance with section 7.3.1.

7.3.2.1.1 *Exceptions to Section 7.3.2.1:*

(a) Equipment capacity may exceed the design load if the equipment selected is the smallest size needed to meet the load within available options of equipment;

(b) Equipment whose capacity exceeds the design load may be specified if calculations demonstrate that oversizing can be shown not to increase annual energy use;

(c) Stand-by equipment may be installed if controls and devices are provided that allow stand-by equipment to operate automatically only when the primary equipment is not operating;

(d) Multiple units of the same equipment type, such as multiple chillers and boilers, with combined capacities exceeding the design load may be specified to operate concurrently only if controls are provided that sequence or otherwise optimally control the operation of each unit based on cooling or heating load;

(e) For unitary equipment with both heating and cooling capability, only one function, either the heating or the cooling, need meet the requirements of this subsection. Capacity for the other function shall be, within available equipment options, the smallest size necessary to meet the load; and

(f) For buildings complying with section 11.0 or 12.0, equipment of higher capacity than the design load may be specified if the oversized equipment is modeled in the building energy analysis of the proposed design and the proposed design complies with the standards.

7.3.3 Separate Air Distribution Systems

7.3.3.1 Zones in a building that are expected to operate non-concurrently for 750 or more hours per year shall either be served by separate air distribution systems, or off-hour controls shall be provided in accordance with section 7.3.5.3.

7.3.3.2 Zones with special process temperature and/or humidity requirements shall be served by separate air distribution systems from those serving zones requiring only comfort heating and/or cooling, or supplementary provisions shall be included to allow the primary systems to be specifically controlled for comfort purposes only.

7.3.3.2.1 *Exception to Section 7.3.3.2:*

(a) Zones, requiring comfort heating and/or cooling, that are served by a system primarily used for process temperature and humidity control, need not be served by a separate system if the total supply air to these zones is no more than 25% of the total system supply air, or the zones total conditioned floor area is less than 1000 ft^2.

7.3.3.3 Zones having substantially different heating or cooling load characteristics, such as perimeter zones in contrast to interior zones, shall not be served by a single multiple zone air distribution system.

7.3.4 Temperature Controls

7.3.4.1 *System Control.* Each HVAC system shall include at least one temperature control device.

7.3.4.2 *Zone Controls.* The supply of heating and/or cooling energy to each zone shall be controlled by an individual thermostat located within the zone.

7.3.4.2.1 *Exceptions to Section 7.3.4.2:*

(a) Independent perimeter systems may serve multiple zones of the primary/interior system with the following limitations:

(1) The perimeter system shall include at least one thermostatic control zone for each major building exposure having exterior walls facing only one orientation for 50 contiguous feet or more; and

(2) The perimeter system heating and/or cooling supply shall be controlled by thermostat controls located within the zone(s) served by the system; and

(b) A dwelling unit may be considered a single zone.

7.3.4.3 Zone thermostats used to control comfort heating shall be capable of being set, locally or remotely, by adjustment or selection of sensors, down to 55 °F.

7.3.4.4 Zone thermostats used to control comfort cooling shall be capable of being set, locally or remotely, by adjustment or selection of sensors, up to 85 °F.

7.3.4.5 Zone thermostats used to control both heating and cooling shall be capable of providing a temperature range or dead band of at least 5 °F within which the supply of heating and cooling energy to the zone is shut off or reduced to a minimum.

7.3.4.5.1 *Exceptions to Section 7.3.4.5:*

(a) For buildings complying with Section 11.0 or 12.0, dead band controls are not required if, in the building energy analysis, heating and cooling thermostat setpoints are set to the same value between 70 °F and 75 °F and assumed to be constant throughout the year;

(b) Special occupancy, special usage or construction code requirements where dead band controls are not appropriate, adjustable single setpoint thermostats may be used; and

(c) Thermostats that require manual changeover between heating and cooling modes.

7.3.5 Off-hour Controls

7.3.5.1 Each HVAC system shall have automatic control setback and/or shutdown of equipment during periods of non-use or alternate use of the spaces served by the system.

7.3.5.1.1 *Exceptions to Section 7.3.5.1:*

(a) Systems serving areas expected to operate continuously;

(b) Where equipment with a full load demand of 2kW (6826 Btu/h) or less may be controlled by readily accessible manual off-hour controls;

(c) Where setback or shutdown will not result in a decrease in overall building energy use.

7.3.5.2 Outside air supply and/or exhaust systems shall be equipped with motorized or gravity dampers or other means of automatic volume shutoff or reduction during periods of non-use or alternate use of the spaces served by the system.

7.3.5.2.1 *Exceptions to Section 7.3.5.2:*

(a) Individual ventilation systems when design air flow is 3000 cfm or less;

(b) Systems that operate continuously;

(c) When restricted by code, such as at combustion air intakes; or

(d) When gravity and other non-electrical ventilation systems may be controlled by readily accessible manual damper controls.

7.3.5.2.2 Dampers may be required in some climates to prevent equipment damage due to freezing and/or to provide proper warm-up control.

7.3.5.3 Systems that serve areas that operate non-concurrently for 750 or more hours per year shall have isolation devices and controls for shut off or set back of heating and cooling to each zone independently. Isolation is not required for zones expected to operate continuously or expected to be inoperative only when all other zones are inoperative.

7.3.5.3.1 For buildings where occupancy patterns are not known at the time of system design, isolation areas may be predesignated.

7.3.5.3.2 Zones may be grouped into a single isolation area providing the total conditioned floor area does not exceed 25,000 ft ^{2} per group nor include more than one floor.

7.3.6 Humidity Control

7.3.6.1 If a system maintains specific relative humidities by adding moisture, a humidistat shall be provided.

7.3.6.2 If comfort humidification is provided, the system shall be designed to prevent the use of fossil fuel or electricity to maintain relative humidity in excess of 30%.

7.3.6.3 If comfort dehumidification is provided, the system shall be designed to prevent the use of fossil fuel or electricity to reduce relative humidity below 60%.

7.3.7 Materials and Construction

7.3.7.1 Insulation required by Section 7.3.7.2 and 7.3.7.3 shall be suitably protected from damage. Insulation shall be installed in accordance with the *Midwest Insulation Contractors Association "Commercial and Industrial Insulation Standards,"* 1983.

7.3.7.2 *Piping Insulation.* All HVAC system piping installed to serve buildings and within buildings shall be thermally insulated in accordance with Table 7.3–1.

BILLING CODE 6450–01–M

Table 7.3-1
Minimum Pipe Insulation (In.)[1]

Fluid Design Operating Temperature Range, °F	Insulation Conductivity		Nominal Pipe Diameter (In.)					
	Conductivity Range Btu·in./F·h·ft²	Mean Rating Temperature °F	Runouts[2] up to 2	1 and less	1-1/4 to 2	2-1/2 to 4	5 & 6	8 and up
Heating Systems (Steam, Steam Condensate, & Hot Water)								
351-450	0.32-0.34	250	1.5	2.5	2.5	3.0	3.5	3.5
251-350	0.29-0.31	200	1.5	2.0	2.5	2.5	3.5	3.5
201-250	0.27-0.30	150	1.0	1.5	1.5	2.0	2.0	3.5
141-200	0.25-0.29	125	0.5	1.5	1.5	1.5	1.5	1.5
105-140	0.24-0.28	100	0.5	1.0	1.0	1.0	1.5	1.5
Domestic and Service Hot Water Systems[3]								
105-140	0.24-0.28	100	0.5	1.0	1.0	1.5	1.5	1.5
Cooling Systems (Chilled Water, Brine, & Refrigerant)[4]								
40-55	0.23-0.27	75	0.5	0.5	0.75	1.0	1.0	1.0
Below 40	0.23-0.27	75	1.0	1.0	1.5	1.5	1.5	1.5

1. For minimum thicknesses of alternative insulation types, see Section 7.3.7.2.2.
2. Runouts to individual terminal units not exceeding 12 ft in length.
3. Applies to recirculating sections of service or domestic hot water systems and first 8 ft from storage tank for non-recirculating systems.
4. The required minimum thicknesses do not consider water vapor transmission and condensation. Additional insulation and/or vapor retarders may be required to limit water vapor transmission and condensation.

BILLING CODE 6450-01-C

7.3.7.2.1 *Exceptions to Section 7.3.7.2:*

(a) For manufacturer installed piping within HVAC equipment tested and rated in accordance with Section 8.3;

(b) For piping conveying fluids at temperatures between 55 °F and 105 °F;

(c) For piping conveying fluids that have not been heated or cooled through the use of fossil fuels or electricity; and

(d) When calculations demonstrate that heat gain and/or heat loss to or from piping without insulation will not increase building energy use.

7.3.7.2.2 *Alternative Insulation Types.* Insulation thicknesses in Table 7.3–1 are based on insulation with thermal conductivities listed in Table 7.3–1 for each fluid operating temperature range, rated in accordance with *ASTM C 335–84,* "Test Method for Steady-State Heat Transfer Properties of Horizontal Pipe Insulations," at the mean temperature listed in the table. For insulating materials having conductivities more than of those shown in the Table 7.3–1 for the applicable fluid operating temperature range and at the mean rating temperature shown, when rounded to the nearest 1/100th Btu/h·°F·ft ², the minimum thickness shall be determined in accordance with Equation 7.3–1:

$$T = PR \times [(1 + t/PR)^{K/k} - 1]$$

Equation 7.3–1

Where:

T = minimum insulation thickness for material with conductivity K, in.

PR = pipe actual outside radius, in.

t = insulation thickness from Table 7.3–1, in.

K = conductivity of alternate material at the mean rating temperature indicated in Table 7.3–1 for the applicable fluid temperature range, Btu·in./h·°F·ft ²

k = the lower value of conductivity listed in Table 7.3–1 for the applicable fluid temperature range, Btu·in./h·°F·ft ²

7.3.7.3 *Air Handling System Insulation.* All air handling ducts, plenums, and other enclosures installed as part of an HVAC air distribution system shall be thermally insulated in accordance with Table 7.3–2 (This table comes from Section 1005 of the 1985 Uniform Mechanical Code).

BILLING CODE 6450-01-M

Table 7.3-2
Minimum Duct Insulation[1]

Duct Location	Cooling[2]		Heating[3]	
	Annual Cooling Degree Days Base 65 °F	Insulation R-value[4] ft²·h·°F/Btu	Annual Heating Degree Days Base 65 °F	Insulation R-value[4] ft²·h·°F/Btu
Exterior of building	below 500	3.3	below 1500	3.3
	500 to 1150	5.0	1500 to 4500	5.0
	1151 to 2000	6.5	4501 to 7500	6.5
	above 2000	8.0	above 7500	8.0
Inside of building envelope or in unconditioned spaces[7]				
TD[5] <=15		None Requ'd		None Req'd
40 >= TD[5] > 15	----	3.3	----	3.3
TD[5] > 40	----	5.0[6]	----	5.0[6]

1. Insulation R-values shown are for the insulation as installed and do not include film resistance. The required minimum thicknesses do not consider water vapor transmission and condensation. Additional insulation and/or vapor retarders may be required to limit vapor transmission and condensation. For ducts which are designed to convey both heated and cooled air, duct insulation shall be as required by the most restrictive condition. Where exterior walls are used as plenum walls, wall insulation shall be as required by the most restrictive condition of this Section or Section 5.0.
2. Cooling ducts are those designed to convey mechanically heated air or return ducts in such systems.
3. Heating ducts are those designed to convey mechanically heated air or return ducts in such systems.
4. Insulation resistance measured on a horizontal plane in accordance with ASTM C518-85 at a mean temperature of 75 °F at the installed insulation thickness.
5. TD is defined as the temperature difference at design conditions (see Section 7.3.1) between the space within which the duct is located and the design air temperature in the duct.
6. Insulation resistance for runnouts to terminal devices less than 10 feet in length need not exceed 3.3 ft²·h·F/Btu.
7. Unconditioned spaces include crawl spaces and attics.

BILLING CODE 6450-01-C

7.3.7.3.1 *Exception to section 7.3.7.3:* Duct insulation is not required in any of the following cases:

(a) Manufacturer installed plenums, casings or ductwork furnished as a part of HVAC equipment tested and rated in accordance with section 8.3; and

(b) When calculations demonstrate that heat gain and/or heat loss to or from ducts without insulation will not increase building energy use.

7.3.7.4 *Duct Construction.* All air handling ductwork and plenums shall be constructed, erected and tested in accordance with the following Sheet Metal and Air Conditioning Contractors National Association (SMACNA) Standards: *HVAC Duct System Design Manual,* 1986; *HVAC Duct Leakage Test Manual,* 1985; and *Fibrous Glass Construction Standards,* 5th edition, 1979.

7.3.7.4.1 Ductwork designed to operate at static pressure differences greater than 3 in. W.C. shall be leak tested and conform with the following requirements of the *HVAC Duct Leakage Manual, 1985:* Test procedures shall be in accordance with those outlined in section 5.0 of the manual, or equivalent; test reports shall be provided in accordance with section 6.0 of the manual, or equivalent; the tested duct leakage class at a test pressure equal to the design duct pressure class rating shall be equal to or less than leakage class 6 as defined in section 4.1 of the manual. Leakage testing may be limited to representative sections of the duct system but in no case shall such tested sections include less than 25% of the total installed duct area for the designated pressure class.

7.3.7.4.2 Where supply ductwork designed to operate at static pressure differences from ¼ in. to 2 in. W.C. are located outside of the conditioned space, including return plenums, joints shall be sealed in accordance with Seal Class C, as defined in the SMACNA manuals referenced above. Pressure sensitive tape shall not be used as the primary sealant for such ducts designed to operate at 1 in. W.C. pressure difference or greater.

7.3.8 Completion Requirements

7.3.8.1 An operating and maintenance manual shall be provided to the building owner. The manual shall include basic data relating to the operation and maintenance of HVAC systems and equipment. Required routine maintenance actions shall be clearly identified. Where applicable, HVAC controls information such as diagrams, schematics, control sequence descriptions, and maintenance and calibration information shall be included.

7.3.8.2 Air system balancing shall be accomplished in a manner to minimize throttling losses and then fan speed shall be adjusted to meet design flow conditions. Balancing procedures shall be in accordance with those established by the National Environmental Balancing Bureau (NEBB), the Association of Air Balancing Council (AABC), or similar procedures.

7.3.8.2.1 *Exception to section 7.3.8.2:*

(a) Damper throttling may be used for air system balancing with fan motors of 1 hp or less, or if throttling results in no greater than ⅓ hp fan horsepower draw above that required if the fan speed were adjusted.

7.3.8.3 Hydronic system balancing shall be accomplished in a manner to minimize throttling losses and then the pump impeller shall be trimmed or pump speed shall be adjusted to meet design flow conditions.

7.3.8.3.1 *Exceptions to section 7.3.8.3:* Valve throttling may be used for hydronic systems balancing under any of the following conditions:

(a) Pumps with pump motors of 10 hp and less;

(b) If throttling results in pump horsepower draw no greater than 3 hp above that required if the impeller were trimmed;

(c) To reserve additional pump pressure capability in open circuit piping systems subject to fouling. Valve throttling pressure drop shall not exceed that expected for future fouling; or

(d) Where it can be shown that throttling will not increase overall building energy use.

7.3.8.4 HVAC control systems shall be tested to assure that control elements are calibrated, adjusted, and in proper working condition.

7.4 Heating, Ventilation and Air-Conditioning (HVAC) Systems—Prescriptive Compliance Alternative

7.4.1 Zone Controls

7.4.1.1 Zone thermostatic and humidistatic controls shall be capable of operating in sequence, the supply of heating and cooling energy to the zone. The controls shall prevent:

7.4.1.1.1 Reheating (heating air that is cooler than system mixed air);

7.4.1.1.2 Recooling (cooling air that is warmer than system mixed air);

7.4.1.1.3 Mixing or the simultaneous supply of air that has been previously mechanically heated and air that has been previously cooled, either by mechanical refrigeration or by economizer systems; and

7.4.1.1.4 Other simultaneous operation of heating and cooling systems to one zone.

7.4.1.2 *Exceptions to Section 7.4.1.1:*

7.4.1.2.1 Variable air volume systems that, during periods of occupancy, are designed to reduce the air supply to each zone to a minimum before reheating, recooling, or mixing during periods of occupancy. The minimum volume setting shall be no greater than the larger of the following:

(a) 30% of the peak supply volume;

(b) The minimum volume required to meet the ventilation requirements of Section 7.3.1.4; and

(c) 0.4 cfm/ft² of conditioned zone area. In addition, supply air temperatures shall be automatically reset based on representative building loads or outside air temperature by at least 25% of the difference between the design supply air and room air temperature. Zones expected to experience relatively constant loads, such as interior zones, shall be designed for the fully reset supply temperature. Supply air reset control is not required if calculations demonstrate that it increases overall building energy use;

7.4.1.2.2 Zones where special pressurization relationships or cross-contamination requirements are such that variable air volume systems are impractical, such as some areas of hospitals and laboratories. In these cases, systems shall include automatic supply air reset controls in accordance with section 7.4.1.2.1 above;

7.4.1.2.3 At least 75% of the energy for reheating or providing warm air in mixing systems is provided from site-recovered energy that would otherwise be wasted, or from non-depletable energy sources;

7.4.1.2.4 Zones where specific humidity levels are required to satisfy process needs, such as computer rooms and museums (see section 7.3.3.2); and

7.4.1.2.5 Zones with a peak supply air quantity of 300 cfm or less.

7.4.2 Economizer Controls

7.4.2.1 Each fan system shall be designed to take advantage of favorable weather conditions to reduce mechanical cooling requirements. The system shall include either of the following:

7.4.2.1.1 A temperature or enthalpy air economizer system that is capable of automatically modulating outside air and return air dampers to provide up to 85% outside air for cooling; or

7.4.2.1.2 A water economizer system that is capable of cooling supply air by direct and/or indirect evaporation. The system shall be designed and controlled

to be able to provide 100% of the system cooling load at outside air temperatures of 50 °F dry-bulb/45 °F wet-bulb and below. Each economizer system shall be capable of providing partial cooling even when additional mechanical cooling is required to meet the remainder of the cooling load.

7.4.2.1.3 *Exceptions to Section 7.4.2.1:*

(a) Individual fan/cooling units with supply capacity of less than 3,000 cfm or a total cooling capacity less than 90,000 Btu/h. The total capacity of such units per building complying by this exception shall not exceed 600,000 Btu/h per building or 10% of the total installed cooling capacity, whichever is larger;

(b) Systems with air or evaporatively cooled condensers and for which one of the following is true:

(1) The system is located where the quality of the air, as defined in *ASHRAE Standard 62–1981*, is so poor as to require extensive treatment of the air, and

(2) Calculations indicate that the use of outdoor air cooling affects the operation of other systems, such as humidification, dehumidification, and supermarket refrigeration systems and will increase overall building energy use;

(c) Calculations demonstrate that the overall building energy use for alternative designs, such as internal/external zone heat recovery systems, are less than those for an economizer system;

(d) The system is located where the outdoor summer wet-bulb design condition (2.5% occurrence, *ASHRAE Handbook, 1985 Fundamentals Volume)* is more than 72 °F and annual HDD65 are less than 2,000;

(e) Systems that serve envelope dominated spaces whose design space sensible cooling load, excluding transmission and infiltration loads, is less than or equal to transmission and infiltration losses at an outdoor temperature of 60 °F;

(f) Systems serving residential spaces including hotel/motel rooms;

(g) Cooling systems for which 75% of its annual energy consumption is provided by site-recovered energy that would otherwise be wasted, or from non-depletable energy sources; and

(h) The zone(s) served by the system each have operable openings (windows, doors, etc.), the openable area of which is greater than 5% of the conditioned floor area. This exception applies only to spaces open to and within 20 ft of the operable openings. Automatic controls shall be provided that lockout system mechanical cooling when outdoor air temperatures are less than 60 °F.

7.4.2.2 Economizer systems shall be capable of providing partial cooling even when additional mechanical cooling is required to meet the remainder of the cooling load.

7.4.2.2.1 *Exceptions to Section 7.4.2.2.*

(a) Direct expansion systems may include controls to reduce the quantity of outside air as required to prevent coil frosting at the lowest step of compressor unloading. Individual direct expansion units that have a cooling capacity of 180,000 Btu/h or less may use economizer controls that preclude economizer operation whenever mechanical cooling is required simultaneously; and

(b) Systems in climates with less than 750 average hours per year between 8 a.m. and 4 p.m. when the ambient dry bulb temperatures are between 55 °F and 69 °F inclusive. See Attachment 5A for climate data for 234 U.S. cities.

7.4.2.3 System design and economizer controls shall be such that economizer operation does not increase the building heating energy use during normal operation.

7.4.2.3.1 *Exception to section 7.4.2.3:*

(a) At least 75% of the energy for heating is provided from site-recovered energy that would otherwise be wasted, or from non-depletable energy sources.

7.4.3 Fan System Design Requirements.

7.4.3.1 The following design criteria apply to all HVAC fan systems used for comfort heating, ventilating and/or cooling. For the purposes of this subsection, the energy demand of a fan is the sum of the demand of all fans that are required to operate at design conditions to supply air from the heating and/or cooling source to the conditioned space(s) and return it back to the source or exhaust it to the outdoors.

7.4.3.1.1 *Exceptions to section 7.4.3.1:*

(a) Systems with total fan system motor horsepower of 10 hp or less;

(b) Unitary equipment for which the energy used by the fan is considered in the efficiency ratings of Section 8.0; and

(c) Total fan energy demand need not include the additional power required by air treatment or filtering systems with final pressure drops in excess of 1 in. W.C.

7.4.3.2 Constant Volume Fan Systems.

7.4.3.2.1 For supply and return fan systems that provide a constant air volume whenever the fans are operating, the power required for the combined fan system at design conditions shall not exceed 0.8 W/cfm of supply air.

7.4.3.3 Variable Air Volume (VAV) Fan Systems.

7.4.3.3.1 For supply and return fan systems that vary system air volume automatically as a function of load, the power required by the motors for the combined system at design conditions shall not exceed 1.25 W/cfm.

7.4.3.3.2 Individual VAV fans with motors 75 hp and larger shall include controls and devices necessary for the fan motor to control demand to no more than 50% of design wattage at 50% of design air volume, based on manufacturer's test data.

7.4.4 Pumping System Design Criteria.

7.4.4.1 The following design criteria apply to all HVAC pumping systems used for comfort heating and/or cooling. For the purposes of this section, the energy demand of a pumping system is the sum of the demand of all pumps that are required to operate at design conditions to supply fluid from the heating and/or cooling source to the conditioned space(s) or heat transfer device(s) and return it to the source.

7.4.4.1.1 *Exception to section 7.4.4.1:*

(a) Systems with total pump system motor horsepower of 10 hp or less.

7.4.4.2 *Friction Rate.* Piping systems shall be designed at a design friction pressure loss rate of no more than 4.0 ft of water per 100 equivalent ft of pipe. Lower friction rates may be required for proper noise or corrosion control.

7.4.4.3 *Variable Flow.* Pumping systems that serve control valves designed to modulate or step open and close as a function of load, shall be designed for variable fluid flow. The system shall be capable of reducing flow to 50% of design flow or less. Flow may be varied by one of several methods, including, but not limited to, variable speed driven pumps, staged multiple pumps, or pumps riding their characteristic performance curves.

7.4.4.3.1 *Exceptions to section 7.4.4.3:*

(a) Systems where a minimum flow greater than 50% of the design flow is required for the proper operation of equipment served by the system, such as chillers;

(b) Systems that serve no more than one control valve;

(c) Where the overall building energy use resulting from an alternative design, such as a constant flow/variable temperature pumping system, is no more than those from a variable flow system; and

(d) Systems that include supply temperature reset controls in accordance with section 7.4.5.2 without exception.

7.4.5 System Temperature Reset Controls.

7.4.5.1 *Air Systems.* Systems supplying heated or cooled air to multiple zones shall include controls that automatically reset supply air temperatures by representative building loads or by outside air temperature. Temperature shall be reset by at least 25% of the design supply-air-to-room-air temperature difference. Zones that are expected to experience relatively constant loads, such as interior zones, shall be designed for the fully reset supply temperature.

7.4.5.1.1 *Exceptions to section 7.4.5.1:*

(a) Systems which comply with section 7.4.1 without using exceptions in sections 7.4.1.2.1 or 7.4.1.2.2; and

(b) Where it can be shown that supply air temperature reset increases overall building annual energy costs.

7.4.5.2 *Hydronic Systems.* Systems supplying heated and/or chilled water to comfort conditioning systems shall include controls that automatically reset supply water temperatures by representative building loads (including return water temperature) or by outside air temperature. Temperature shall be reset by at least 25% of the design supply-to-return water temperature difference.

7.4.5.2.1 *Exceptions to section 7.4.5.2:*

(a) Systems that comply with section 7.4.4.3 without exception;

(b) Where it can be shown that supply temperature reset increases overall building annual energy use;

(c) Systems for which supply temperature reset controls cannot be implemented without causing improper operation of heating, cooling, humidification, or dehumidification systems; or

(d) Systems with less than 600,000 Btu/h design capacity.

§ 435.108 Heating, ventilation and air-conditioning (HVAC) equipment.

8.1 General

8.1.1 This section contains minimum requirements for fundamental to good practice and/or the minimum acceptable state-of-the-art in energy efficient HVAC equipment.

8.1.2 A building shall be considered in compliance with this section if the minimum requirements of Section 8.3 are met.

8.2 Principles of Design

8.2.1 The rate of energy input(s) and the heating or cooling output(s) of all HVAC products shall be ascertained. This information shall be based on equipment in new condition, and shall cover full load, partial load, and standby conditions. The information shall also include performance data for modes of equipment operation and at ambient conditions as specified in the minimum equipment performance requirements below.

8.2.2 Source Systems

8.2.2.1 To allow for HVAC equipment operation at the highest efficiencies, conversion devices shall be matched to load increments, and operation of modules shall be sequenced. Oversized or large scale systems shall never be used to serve small seasonal loads (e.g., a large heating boiler to serve a summer service water heating load). Specific "low load" units shall be incorporated in the design where prolonged use at minimal capacities is expected.

8.2.2.2 Storage techniques should be used to level or distribute loads that vary on a time or spatial basis to allow operation of a device at maximum (full-load) efficiency.

8.2.2.3 All equipment shall be the most efficient (or highest COP) practical, at both design and reduced capacity (part-load) operating conditions.

8.2.2.4 Fluid temperatures for heating equipment shall be as low as practical and for cooling equipment as high as practical, while meeting loads and minimizing flow quantities.

8.3 Minimum Requirements

8.3.1 Equipment Efficiency

8.3.1.1 *Minimum Equipment Efficiency.* Equipment shall have a minimum efficiency at the specified rating conditions, not less than the values shown in Tables 8.3–1 through 8.3–10. Minimum efficiencies for equipment using chlorofluorocarbons (CFCs) refrigerants reflect the assumption that the use of certain refrigerants may be restricted because of ozone layer depletion concerns.

8.3.1.2 Data furnished by the equipment supplier or certified under a nationally-recognized certification program or rating procedure may be used to satisfy these requirements.

8.3.1.3 Integrated Part-Load Value (IPLV) is the descriptor for part-load efficiency for certain types of equipment. The IPLVs are found in the referenced ARI Standards. Compliance with minimum efficiency requirements specified for certain HVAC equipment shall include compliance with part-load requirements as well as standard or full-load requirements.

8.3.1.4 If nationally-recognized test procedures for combined equipment are not available, efficiencies for service water heating shall be determined using data provided by equipment and component manufacturers, employing reasonable assumptions concerning uncertain parameters.

8.3.1.5 Omission of minimum performance requirements for certain classes of HVAC equipment does not preclude use of such equipment where appropriate.

8.3.2 Field Assembled Equipment and Components

8.3.2.1 Where components, such as indoor or outdoor coils, from more than one manufacturer are used as parts of a cooling or heating unit, it shall be the responsibility of the system designer to specify component efficiencies, which when combined will provide equipment that is in compliance with the requirements of these standards, based on data provided by the component manufacturers.

8.3.2.2 Total on-site energy input to the equipment shall be determined by combining the energy inputs to all components, elements, and accessories including but not limited to compressor(s), internal circulating pump(s), condenser-air fan(s), evaporative-condenser cooling water pump(s), purge devices, viscosity control heaters, and controls.

8.3.2.3 *Heat-Operated Water Chilling Package.* Double-effect, heat-operated water chilling packages shall be used in lieu of single-effect equipment, due to their higher efficiency, except where the energy input is from low temperature waste-heat or non-depletable energy sources.

8.3.3 Equipment Controls

8.3.3.3 Heat pumps equipped with supplementary resistance heaters for comfort heating shall be installed with a control to prevent heater operation when the heating load can be met by the heat pump. A two-stage room thermostat, that controls the supplementary heat on its second stage, will meet this requirement. Supplementary heater operation is permitted where it can be shown that supplementary heating reduces energy use. Supplementary heater operation is permitted during short transient periods of less than 15 minutes during defrost cycles.

8.3.3.3.1 Controls shall provide a means of activating the supplementary heat source on an emergency basis and a visible indicator shall be provided to indicate the emergency heat status.

8.3.3.4 *Cooling Equipment Auxiliary Controls.* Evaporator coil frosting and excessive compressor cycling at part-load conditions shall not be controlled

by use of either hot gas by-pass or evaporator pressure regulator control.

8.3.4 Comfort Heating Equipment

8.3.4.1 The designer shall obtain data and information from the manufacturer of electric resistance comfort heating equipment regarding full-load and part-load energy consumption of the heating equipment over the range of voltages at which the equipment is intended to operate. All auxiliaries required for the operation of the heater equipment such as, but not limited to fans, pumps, viscosity control heaters, fuel handling equipment, and blowers shall be included in the energy input data provided by the manufacturer(s).

8.3.5 Maintenance

8.3.5.1 Provisions shall be made to provide necessary preventive maintenance information to maintain efficient operation of all HVAC equipment.

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Table 8.3-1

Standard Rating Conditions and Minimum Performance

Unitary Air Conditioners and Heat Pumps - Air-Cooled, Electrically-Operated

<135,000 Btu/h Cooling Capacity - Except Packaged Terminal and Room Air Conditioners

Reference Standards	Category	Phases	Subcategory & Rating Condition (Outdoor Temps. °F)	Minimum Performance
	<65,000 Btu/h		Seasonal Rating[1]	
ARI 210-81	Cooling Capacity	1	Split-System	10.0 SEER
ARI 240-81	Cooling Mode		Single-Package	9.7 SEER
ARI 210/ 240-84	<65,000 Btu/h		Standard Rating (95 db)	
	Cooling Capacity	3	Split-System & Single-Pkg.	9.5 EER
	Cooling Mode		Integrated Part-Load Value (80 db)	
			Split-System & Single-Pkg.	8.5 IPLV
	≥65,000 <135,000 Btu/h		Standard Rating (95 db)	8.9 EER
	Cooling Mode	All	Integrated Part-Load Value (80 db)	8.3 IPLV
	<65,000 Btu/h		Seasonal Rating[1]	
	Cooling Capacity	1	Split-Systems	6.6 HSPF
	Heating Mode (Heat Pumps)		Single-Package	6.6 HSPF
	<65,000 Btu/h		Split-System & Single Pkg.	
	Cooling Capacity	3	High Temp. Rating (47db/43wb)	3.0 COP
	Heating Mode		Low Temp. Rating (17db/15/wb)	2.0 COP
	≥65,000 <135,000 Btu/h		Split-System & Single Pkg.	
	Cooling Capacity	All	High Temp. Rating (47db/45wb)	3.0 COP
	Heating Mode		Low Temp. Rating (17db/15wb)	2.0 COP

1. To be consistent with National Appliance Energy Conservation Act of 1987 (Pub. L. 100-12)

Table 8.3-2

Standard Rating Conditions and Minimum Performance

Unity Air Conditioners and Heat Pumps - Evaporatively-Cooled, Electrically-Operated - Cooling Mode

<135,000 Btu/h Cooling Capacity - Except Packaged Terminal and Room Air Conditioners

Reference Standards	Category	Rating Condition °F Indoor Temp.	Outdoor Temp.	Minimum Performance
	<65,000 Btu/h	Standard Rating		
ARI 210-81	Cooling Capacity	80db/67wb	95db/75wb	9.3 EER
	<65,000 Btu/h	Integrated Part-Load Value (80db/67wb)		8.5 IPLV
ARI 210/ 270-84	≥65,000 <135,000 Btu/h	Standard Rating 80db/67wb	95db/75wb	10.5 EER
CTI 201 (86)	≥65,000 <135,000 Btu/h	Integrated Part-Load Value (80db/67wb)		9.7 IPLV

Table 8.3-3
Standard Rating Conditions & Minimum Performance
Water-Cooled Air Conditioners and Heat Pumps -Cooling Mode
<135,000 Btu/h Cooling Capacity - Electrically-Operated

Reference Standard	Category	Rating Condition °F Indoor Air / Entering Water	Minimum Performance
Water-Source	<65,000 Btu/h	Standard Rating	
Heat Pumps	Cooling Capacity	80db/67wb 85	9.3 EER
ARI 320-86		Low Temperature Rating	
CTI 201 (86)		80db/67wb 75	10.2 EER
	>65,000 <135,000 Btu/h	Standard Rating	
	Cooling Capacity	80db/67wb 85	10.5 EER
Groundwater-Cooled		Standard Rating	
Heat Pumps	<135,000 Btu/h	70 F Entering Water	11.0 EER
ARI 325-85	Cooling Capacity	Low Temperature Rating	
		50 F Entering Water	11.5 EER
Water-Cooled		Standard Rating	
Unitary	<65,000 Btu/h	80db/67wb 85	9.3 EER
Air Conditioners	Cooling Capacity	Integrated Part-Load Value	
ARI 210-81		75 F Entering Water	8.3 IPLV
ARI 210/240-84	≥65,000 <135,000 Btu/h	Standard Rating	
CTI 201 (86)	Cooling Capacity	80db/67wb 85	10.5 EER

Table 8.3-4a
Standard Rating Conditions and Minimum Performance
Packaged Terminal Air Conditioners and Heat Pumps
Air-Cooled, Electrically-Operated

Reference Standards	Category	Subcategory & Rating Condition (Outdoor Temps. °F)	Minimum Performance
ARI 310-87	PTAC's & PTAC H.P.'s[2] Cooling Mode	Standard Rating (95 db)	10.0-(.16 x Cap. (Btu/h)/1000) EER
		Low Temp. Rating (82 db)[1]	12.2-(.20 x Cap. (Btu/h)/1000) EER
ARI 380-87	PTAC H.P.'s - Heating Mode	Standard Rating (47db/43wb)	2.7 COP

1. For multi-capacity equipment the minimum performance shall apply to each capacity step provided and allowed by the controls.
2. If the unit's capacity is less than 7000 Btu/h, use 7000 Btu/h in the calculation. If the unit's capacity is greater than 15000 Btu/h, use 15000 Btu/h in the calculation.

Table 8.3-4b
Standard Rating Conditions & Minimum Performance
Room Air Conditioners and Room Air Conditioner Heat Pumps

Reference ANSI/AHAM RAC-1-82	Category	Minimum Performance[1]
	Without Reverse Cycle and With Louvered Sides	
	< 6000 Btu/h	8.0 EER
	≥ 6000 < 8000 Btu/h	8.5 EER
	≥ 8000 < 14000 Btu/h	9.0 EER
	≥ 14000 < 20000 Btu/h	8.8 EER
	≥ 20000 Btu/h	8.2 EER
	Without Reverse Cycle and Without Louvered Sides	
	< 6000 Btu/h	8.0 EER
	≥ 6000 < 20000 Btu/h	8.5 EER
	≥ 20000 Btu/h	8.0 EER
	With Reverse Cycle and With Louvered Sides	8.5 EER
	With Reverse Cycle, Without Louvered Sides	8.0 EER

1. To be consistent with National Appliance Energy Conservation Act of 1987 (Pub. L. 100-12).

Table 8.3-5
Standard Rating Conditions and Minimum Performance
Water-Source and Groundwater-Source Heat Pumps - Electrically-Operated
<135000 Btu/h Cooling Capacity

Reference Standards	Rating Condition °F[1]	Minimum Performance
Water-Source Heat Pumps ARI 320-86 CTI 201 (86)	Standard Rating 70 F Entering Water[2]	3.8 COP
Groundwater-Source Heat Pumps ARI 325-85	1. High Temperature Rating 70 F Entering Water[2]	3.4 COP
	2. Low Temperature Rating 50 F Entering Water[2]	3.0 COP

1. Air entering indoor section 70db/60wb (max.).
2. Water Flow Rate Per Manufacturer's Specifications.

Table 8.3-6
Standard Rating Conditions and Minimum Performance
Large Unitary Air Conditioners and Heat Pumps - Electrically-Operated
≥ 135,000 BTU/H Cooling Capacity

Category/ Reference Standards	Efficiency Rating	Minimum Performance	
Air Conditioners	EER	≤ 760,000 Btu/h	> 760,000 Btu/h
Air-Cooled ARI 360-65	IPLV	7.5	
Air Conditioners	EER	9.6	
Water/Evap.-Cooled	IPLV	9.0	
ARI 360-85, CTI 201 (86)			
Heat Pumps			
-Air-Cooled - Cooling	EER	≤ 760,000 Btu/h	> 760,000 Btu/h
	IPLV	7.5	
-Air-Cooled - Heating	COP (47 °F)	2.9	
ARI 340-86	COP (17 °F)	2.0	
Condensing Units	EER	9.9	
Air Cooled ARI 365-87	IPLV	11.0	
Condensing Units	EER	12.9	
Water/Evap.-Cooled	IPLV	12.9	
ARI 365-87, CTI 201 (86)			

1. For units that have a heating section, deduct 0.2 from all required EER's and IPLV's.
2. Condensing unit requirements are based on single-number ratings defined in paragraph 5.1.3.2 of ARI Standard 365-87.

Table 8.3-7

Standard Rating Conditions and Minimum Performance

Water-Chilling Packages - Water- and Air-Cooled - Electrically-Operated

Reference Standards	Category	Efficiency Rating	Minimum Performance
	Water - Cooled		
ARI 550-86 &	≥ 300 tons	COP	5.2[1]
ARI 590-86		IPLV	5.3[1]
CTI 201 (86)	≥ 150 Tons < 300 tons	COP	4.2
		IPLV	4.5
	< 150 tons	COP	3.8
		IPLV	3.9
	Air-Cooled With Condenser		
	≥ 150 tons	COP	2.5
		IPLV	2.5
	< 150 tons	COP	2.7
		IPLV	2.8
	Condenserless, Air-Cooled		
	All Capacities	COP	3.1
		IPLV	3.2

1. Where R-22 or CFC refrigerants with equivalent ozone depletion factors are used these requirements are reduced to 4.7 COP and 4.8 IPLV (see Section 8.3.1.1)

NOTE: The levels above are minimum performance levels. Better energy efficiencies may be available, and their use is encouraged.

Table 8.3-8
Standard Rating Conditions and Minimum Performance
Boilers: Gas- and Oil-Fired

Reference	Category	Rating Condition	Minimum Performance
DOE Test Procedure 10 CFR, Part, 30 App N	Gas-Fired <300,000 Btu/h	Seasonal Rating	AFUE 80%[1,3]
	Oil-Fired <300,000 Btu/h	Seasonal Rating	AFUE 80%[1]
AGA Z21.13-82 H.I. Htg. Boiler Std. 86 ASME PTC4.1-64 U.L. 795-73	Gas-Fired ≤300,000 Btu/h	1. Max. Rated Cap.[2] Steady-State	E_c[4] 80%
		2. Min. Rated Cap.[2] Steady-State	E_c[4] 80%
U.L. 726-75 H.I. Htg. Boiler Std. 86 ASME PTC 4.1-64	Oil-Fired ≥300,000 Btu/h	1. Max. Rated Cap.[2] Steady-State	E_c[4] 83%
		2. Min. Rated Cap.[2] Steady-State	E_c[4] 83%
H.I. Htg. Boiler Std. 86 ASME PTC 4.1-64	Oil-Fired (Residual) ≥300,000 Btu/h	1. Max. Rated Cap.[2] Steady-State	E_c[4] 83%
		2. Min. Rated Cap.[2] Steady-State	E_c[4] 83%

1. To be consistent with National Appliance Energy Conservation Act of 1987 (Pub. L. 100-12).
2. Provided and allowed by the controls.
3. Except for gas-fired steam boilers for which minimum AFUE is 75%.
4. E_c = combustion efficiency, 100% - flue losses.

Table 8.3-9

Standard Rating Conditions and Minimum Performance

Warm-Air Furnaces and Combination Warm-Air Furnaces/Air-Conditioning Units

Reference	Category	Rating Condition	Minimum Performance
DOE Test Procedure 10 CFR, Part 30 App. N	Gas-Fired <225,000 Btu/h	Seasonal Rating	AFUE 78% [1,3]
	Oil-Fired <225,000 Btu/h	Seasonal Rating	AFUE 78% [1]
AGA Z21.47-83	Gas-Fired ≥225,000 Btu/h	1. Max. Rated Cap.[2] Steady-State	E_t[4] 80%
		2. Min. Rated Cap.[2] Steady-State	E_t[4] 78%
U.L. 727-86	Oil-Fired ≥225,000 Btu/h	1. Max. Rated Cap.[2] Steady-State	E_t[4] 81%
		2. Min. Rated Cap.[2] Steady-State	E_t[4] 81%

1. To be consistent with National Appliance Energy Conservation Act of 1987 (Pub. L. 100-12).
2. Provided and allowed by the controls.
3. Minimum performance requirements for furnaces <45,000 Btu/h capacity are to be established by DOE under Pub. L. 100-12.
4. E_t = thermal efficiency, 100% - flue losses.

Table 8.3-10
Warm Air Duct Furnaces and Unit Heaters

Reference	Category	Rating Conditions	Minimum Performance
AGA Z83.9-86	Duct Furnaces Gas-Fired	1. Max. Rated Cap.[1] Steady-State	E_t[2] 78%
		2. Min. Rated Cap.[1] Steady-State	E_t[2] 75%
AGA Z83.8-85	Unit Heaters Gas-Fired	1. Max. Rated Cap.[1] Steady-State	E_t[2] 78%
		2. Min. Rated Cap.[1] Steady-State	E_t[2] 75%
U.L 731-75	Unit Heaters Oil-Fired	1. Max. Rated Cap.[1] Steady-State	E_t[2] 81%
		2. Min. Rated Cap.[1] Steady-State	E_t[2] 78%

1. Provided and allowed by the controls.
2. E_t = thermal efficiency, 100% -flue losses.

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§ 435.109 Service water heating systems.

9.1 General

9.1.1 This section contains minimum and prescriptive requirements for the design of Service Water Heating Systems.

9.1.2 A building shall be considered in compliance with this section if the following conditions are met:

9.1.2.1 The minimum requirements of section 9.3 are met; and

9.1.2.2 The Service Water Heating System design complies with the prescriptive criteria of section 9.4.

9.2 Principles of Design

9.2.1 Showerheads shall be designed to provide and maintain user comfort and energy savings. They should not use removable flow restricting inserts to meet flow limitation requirements.

9.2.2 Point of use water heaters shall be considered where their use will reduce energy consumption and is life cycle cost effective.

9.2.3 High temperature condensate, when returned to condensation pump tanks or other vented tanks, will have a certain portion flashed into steam, thus wasting energy. To conserve this energy, a heat exchanger shall be considered for use in the condensate return line to heat or preheat the service water, cool the condensate, and prevent flashing.

9.2.4 Storage may be used to optimize heat recovery when the flow of heat to be recovered is out of phase with the demand for heated water, or when energy use for water heating can be shifted to take advantage of off-peak rates.

9.3 Minimum Requirements

9.3.1 Sizing of Systems

9.3.1.1 Service water heating system design loads for the purpose of sizing and selecting systems shall be determined in accordance with the procedures described in chapter 54 of the *ASHRAE Handbook, 1987 HVAC Systems and Applications Volume*, or a similar computation procedure.

9.3.2 Equipment Efficiency

9.3.2.1 All water heaters and hot water storage tanks shall meet the criteria of Table 9.3–1. Where multiple criteria are listed, all criteria shall be met. Where no criteria are provided, no requirements need be met.

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Table 9.3-1

Standard Rating Conditions & Minimum Performance of Water Heating Equipment

Type	Fuel	Storage Capacity (Gal)	Input Rating	Applicable Test Procedure	Minimum Performance		
					DOE Rating	Eff.	Loss
Storage Water Heaters	Electric	≤120	≤12 kW	DOE Test Procedures, 1985 Code of Federal Regulations Title 10, Part 430	EF	-	-
					≥0.95-0.00132V		
		>120	(or) >125 kW	ANSI C72.1 - 1972	-	-	SL
					-	-	<1.9 W/ft^2
	Gas	≤100	≤75,000 Btu/h	DOE Test Procedures, 1985 Code of Federal Regulations Title 10, Part 430	EF	-	-
					≥0.62-0.0019V	-	-
		>100	(or) >75,000 Btu/h	ANSI Z21.10.3-1984 Gas Water Heaters w/Addenda Z21.10.3a-1985	-	E_t	SL
					-	77%	<1.3+ 38/V
	Oil		≤75,000 Btu/h	DOE Test Procedures, 1985 Code of Federal Regulations Title 10, Part 430	EF		-
					≥0.59-0.0019V		-
		≤50	≤105,000 Btu/h (or)		>0.59-0.0019V		
		>50	>105,000 Btu/h		-	E_c	SL
					-	83%	>1.3+ 38/V

Table 9.3-1

Standard Rating Conditions & Minimum Performance of Water Heating Equipment (Cont.)

Type				Applicable Test Procedure	Minimum Performance	
Class	Fuel	Capacity	Input Rating			
Unfired Storage	1	All Volume	All Inputs		-	HL
					-	<6.5 Btu/h·ft^2
Instantaneous[2]	Gas	-	All Inputs	ANSI Z21.10.3-1984	E_t	-
					80%	-
	Distill Oil	-	All Inputs		E_c	-
					83%	-
Pool	Gas/ Oil	-	All Inputs	ANSI Z21.56-1986	E_t	-
					78%[c]	-

Notes for Table 9.3-1:

Terms Defined:

1. EF = Energy factor, overall heater efficiency by DOE Test Procedure
   E_t = Thermal efficiency with 70 °F, ▲T
   E_c = Combustion efficiency, 100% - flue loss when smoke = 0 (trace is permitted)
   SL = Standby loss based on 80 °F, ▲or in % per hour based on nominal 90 °F, ▲T
   HL = Heat loss of tank surface area
   V = Storage volume in gallons

2. An instantaneous water heater is a device with an input rate greater than 4000 Btu/h per gallon of water stored and less than 10 gallons at storage capacity.

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9.3.2.1.1 *Exception to section 9.3.2.1* (a) storage water heaters and hot water storage tanks having more than 500 gallons of storage capacity need not meet the standby loss (SL) or heat loss (HL) requirements of Table 9.3–1 if the tank surface area is thermally insulated to R–12.5 and if a standing pilot light is not used.

9.3.2.2 *Heat Traps.* Storage water heaters not equipped with integral heat traps and having vertical pipe risers shall be installed with heat traps on both the inlet and outlets. The heat trap shall be installed directly, or as close as possible to the outlet fittings. Circulating systems need not employ heat traps.

9.3.2.2.1 A heat trap may take the form of a bent piece of tubing that forms a loop of 360 degrees; an arrangement of pipe fittings, such as elbows, connected so that the inlet and outlet piping make vertically upward runs just before turning downward to connect to the water heater's inlet and outlet fittings; a commercially available heat trap; or any other type that effectively restricts the natural tendency of hot water to rise in the vertical pipe during standby periods.

9.3.2.2.2 When the water heater outlet is directly horizontal out of the tank, or is piped with an elbow on the vertical outlet and then downward, this piping arrangement itself is effectively a heat trap and a separate heat trap is not then needed.

9.3.3 Piping Insulation

9.3.3.1 For circulating systems, piping insulation shall conform to the requirements of Table 7.3–1 or an equivalent level as calculated in accordance with Equation 7.3–1.

9.3.3.2 For non-circulating systems, the first 8 ft of piping from a storage system that is maintained at a constant temperature shall be insulated in accordance with Table 7.3–1, or an equivalent level as calculated in accordance with Equation 7.3–1. Systems without a heat trap to prevent circulation due to natural convection shall be considered circulating systems.

9.3.4 Controls

9.3.4.1 *Temperature.* Service water heating systems shall be equipped with temperature controls capable of adjustment from 90 °F to a temperature setting compatible with intended use, except for systems serving residential dwelling units may be equipped with controls capable of adjustment down to 110 °F only. (See *ASHRAE Handbook, 1987 Systems and Applications Volume,* Chapter 54, Table 3).

9.3.4.1.1 Where temperatures higher than 120 °F are required at certain outlets for a particular intended use, separate remote heaters or booster heaters shall be installed for those outlets unless it can be shown by calculation that either energy is not saved by the application of this requirement or that the total cost over the life of the equipment is not reduced.

9.3.4.1.2 *Circulating Hot Water Systems and Heated Pipes.* Systems designed to maintain temperatures in hot water pipes, including circulating hot water systems and heat tape on water pipes, shall be equipped with automatic controls that can be set to turn off the system when hot water is not required.

9.3.5 Equipment and Control Requirements for the Conservation of Hot Water

9.3.5.1 Showers used for other than safety reasons shall limit the maximum hot water discharge to 2.75 gpm when tested according to *ANSI A112.18.1M–1979,* "Finished and Rough Brass Plumbing Fixtures". The designer shall evaluate the use of lower-flow showerheads than 2.75 gpm, particularly for heavily used facilities. Removable flow restricting inserts shall not be used in showerheads to meet this criterion. When flow restricting inserts are used as a component part of a showerhead, they shall be mechanically retained at the point of manufacture. [Mechanically retained means a pushing or pulling force to remove the flow restricting insert at 8 pounds or more.] This requirement shall not apply to showerheads that will cause water to leak significantly from areas other than the spray face, if the flow restricting insert were removed.

9.3.5.2 Lavatories in public restrooms, with the exception of lavatories for physically handicapped persons, shall be equipped with devices that:

9.3.5.2.1 Limit the flow of hot water to either:

(a) A maximum of 0.5 gpm;

(b) 0.75 gpm if a device or fitting is used that limits the period of water discharge, such as a foot switch, fixture occupancy sensor; or

(c) 2.5 gpm if equipped with a self-closing valve;

9.3.5.2.2 Either be equipped with a foot switch or occupancy sensor or similar device or limit delivery with a self-closing valve or a foot switch to a maximum of 0.25 gallons of hot water for circulating systems;

9.3.5.2.3 Limits delivery with a self-closing valve or a foot switch to a maximum of 0.50 gallons for non-circulating systems; and

9.3.5.2.4 Limits the outlet temperature to a maximum 110 °F.

9.3.6 Swimming Pools

9.3.6.1 *Pool Heaters.* All pool heaters shall meet the criteria of Table 9.3–1 and be equipped with a readily accessible "on-off" switch to allow system shut-off without adjusting the thermostat setting and, when applicable, allow restarting without manually relighting the pilot light.

9.3.6.2 *Pool Covers.* Outdoor heated swimming pools shall be equipped with a pool cover. However, pools deriving over 70% of the energy for heating from non-depletable sources or from recovery of energy that would otherwise be wasted (computed over an operating season) need not be equipped with pool covers.

9.3.6.3 *Time Switches.* Time switches shall be installed on all swimming pool pumps and all electric swimming pool heaters. These switches shall allow for the shutdown of heaters during hours of peak utility demand except as is necessary in peak period operation to maintain water in a clear and sanitary condition in keeping with applicable public health standards.

9.3.6.3.1 *Exceptions to section 9.3.5.3:* (a) Where public health standards require 24 hour operation of pumps; and

(b) Pumps are required to operate solar pool heating systems.

9.4 Service Hot Water Heating Systems—Prescriptive Compliance Alternative

9.4.1 Combination Service Water Heating/Space Heating Equipment

9.4.1.1 Water heaters used for combination service water and space heating shall meet the appropriate minimum efficiency requirements of both section 8.3 and 9.3.

9.4.1.2 Combination space heating and service water heating equipment shall only be used when at least one of the following conditions is met:

9.4.1.2.1 where the annual space heating energy use is less than 50% of the annual service water heating energy use;

9.4.1.2.2 where the energy input or storage volume of the combined boiler or water heater is less than twice the size of the smaller of the separate boilers or water heaters otherwise required;

9.4.1.2.3 where calculations show that the combined system uses no more energy than separate systems that meet the requirements of sections 8.3 and 9.3; or

9.4.1.2.4 where the input to the combined boiler is less than 150,000 Btu/h.

9.4.1.3 Combination function equipment (space heating, service water heating, cooling, etc.) shall comply with minimum efficiency requirements in accordance with nationally recognized test procedures. Where such procedures are not available for particular equipment designs, compliance shall be determined based on the function representing the maximum annual energy consumption, using data provided by equipment and component manufacturers.

9.4.2 Additional Equipment Efficiency Measures

9.4.2.1 *Electric Water Heaters.* In applications where water temperatures not greater than 145 °F are required, an economic evaluation shall be made on the potential benefit of using an electric heat pump water heater(s) instead of electric resistance water heater(s). The analysis shall compare the extra costs of the heat pump unit with the benefits in reduced energy costs, less increased maintenance costs, over the estimated service life of the heat pump water heater.

9.4.2.1.1 *Exception to section 9.4.2.1:* (a) Electric resistance water heaters used in conjunction with site-recovered or non-depletable energy sources or off-peak heating with thermal storage.

9.4.2.2 *Gas-Fired Water Heaters.* All gas-fired storage water heaters that use indoor air for combustion or draft hood dilution and that are installed in a conditioned room shall be equipped with a vent damper unless the water heater is already so equipped. Unless the water heater has an available electrical supply, the installation of such a vent damper shall not require an electrical connection. The vent damper shall be listed as meeting appropriate ANSI standards and shall be installed in accordance with manufacturer's instructions and local codes.

9.4.2.2.1 *Exception to section 9.4.2.2:* (a) where the cost of the damper exceeds the value of reduced energy costs over the damper's lifetime.

9.4.3 Use of Waste Heat, Solar Energy, and Thermal Storage

9.4.3.1 An evaluation shall be made of the potential for the use of condenser heat, waste energy, solar energy, or off-peak heating with thermal storage to reduce water heating energy cost.

9.4.3.2 Storage shall be used to optimize heat recovery when the flow of heat to be recovered is out of phase with the demand for heated water, or when energy use for water heating can be shifted to take advantage of off-peak rates.

§ 435.110 Energy management.

10.1 General

10.1.1 This section contains minimum requirements for building energy management systems. It describes the energy measurement, control, testing and documentation that shall be provided to the building owner. The intent is to minimize energy use by providing the building operator with design, construction and equipment data, along with a means of testing the completed facility.

10.1.2 A building shall be considered in compliance with this section if the minimum requirements of Section 10.3 are met.

10.2 Principles of Design

10.2.1 Energy Management Control Systems

10.2.1.1 An energy management control system is critical to the effective management of building energy. Energy management systems require measurements at key points in the building system and must be capable of part-load operation recognition and be equipped with controls to match system capacity to load demands.

10.2.1.2 Controls cannot correct inadequate source equipment, poorly selected components, or mismatched systems. Energy efficiency requires a design that is optimized by realistic loads prediction, careful system selection, and full control provisions.

10.2.2 Building Operating Documentation

10.2.2.1 The building construction drawings and specifications must show system types, sizes, performance criteria, controls, and materials intended for use prior to construction. The system designer shall provide or specify that documentation be provided for the education and guidance of the building operator showing the actual elements that have been installed, how they have been installed, how they performed during testing, and how they operate as a system in the completed facility. Since minimum energy use is the ultimate goal, operating procedures are one of the major factors in controlling energy use in buildings. The activities of building occupants and operators can result in differences as great as two to one in the energy consumption of essentially similar buildings. While neither the designer nor these standards can control the way the building is actually operated, the designer shall contribute to the education and guidance of the building operator by including this documentation in the contract specifications.

10.2.2.2 The building operator shall be provided with the following:

10.2.2.2.1 As-built drawings and specifications;

10.2.2.2.2 Operating manuals with a schematic diagram, sequence of operation and system operating criteria for each and all systems installed;

10.2.2.2.3 Where the building systems are complex, a comprehensive balancing and testing program and report to demonstrate the energy performance capabilities of the system; and

10.2.2.2.4 Maintenance manuals with complete information for all major components in the facility.

10.3 Minimum Requirements

10.3.1 Each distinct utility-provided energy service shall be metered. This shall apply to central and individual tenant meters. Such meters shall be located, or arranged, so that the meter can be visually monitored.

10.3.2 Each distinct commercially-provided energy service shall have a system to measure and record the amount of energy being delivered, based on the energy content.

10.3.3 The energy delivery systems shall be arranged to allow individual measurement of occupant lighting and outlet services, production processes, auxiliary systems, service water heating, space heating, space cooling, and HVAC delivery systems.

10.3.4 Provisions shall be made for the measurement of energy inputs and outputs (flow, temperature, pressure, etc.) to determine equipment energy consumption and/or installed performance capabilities and efficiencies of all heating, cooling, and HVAC delivery systems equipment, greater than 20 kVA or 60,000 Btu/h energy input.

10.3.5 Energy Measurement Instrumentation

10.3.5.1 In buildings or tenant areas with electric service greater than 150 kVA or fuel use greater than 500,000 Btu/h, energy use shall be measured for electrical lighting, miscellaneous power outlets, HVAC systems and equipment, service hot water, and process loads and when the peak use of:

10.3.5.1.1 Production processes, including manufacturing, computers, laundries, kitchens, etc., is greater than 100 kVA or 300,000 Btu/h;

10.3.5.1.2 Auxiliary systems and service water heating is greater than 100 kVA or 300,000 Btu/h;

10.3.5.1.3 Space heating (including reheat) is greater than 100 kVA or 300,000 Btu/h;

10.3.5.1.4 Space cooling is greater than 100 kVA or 300,000 Btu/h; and

10.3.5.1.5 HVAC delivery systems is greater than 100 kVA or 300,000 Btu/h.

10.3.5.1.6 *Exception to section 10.3.5.1:*

(a) When there is an energy service for only 2 of the 6 categories listed, a single measurement may be made for the larger of the two energy services and the second use determined by subtraction from the primary service measurements.

10.3.6 HVAC System Controls

10.3.6.1 The designer shall designate, specify, or otherwise show in the construction documents the type of controls and control systems needed. This shall include a description or sequence of control of the system's operational procedures.

10.3.6.2 Controls may be electric, pneumatic, electronic, or direct digital. Control action may be "on/off", or proportional that can use manual, automatic, or remote reset and can have rate of action or derivative action compensation as designated by the designer. Control devices may be provided by the manufacturers of equipment or by the field installers, but all shall be compatible with the design sequence of control. The designer shall designate accuracy and long term requirements for controls.

10.3.6.3 All primary energy conversion equipment such as boilers, heat exchangers, refrigeration units, furnaces and heat pumps shall have a load activated local control loop for each piece of equipment. Controls for multiple equipment shall integrate the individual control units or provide system control for all the units.

10.3.6.4 All energy delivery systems shall have a local control loop for each system.

10.3.6.5 Energy consuming systems or components with a peak use greater than 1 kW or 3,500 Btu/h shall be provided with a means of shut-off when occupancy or weather conditions do not require its operation.

10.3.6.6 The control equipment provided for local control loops except for "on/off" and self-contained sensor devices shall be arranged so that sensing, control action, and control setting variables can be read or tested at the device.

10.3.6.7 Control loops for terminal unit zones with less than 24 hours per day or 7 days per week occupancy shall have separate control points for day and night heating and cooling. The devices shall be capable of local resetting, and have provisions for remote management system selection of the occupied or unoccupied heating or cooling mode of operation.

10.3.7 Central Monitoring and Control Systems

10.3.7.1 A central monitoring and control system shall be provided in any building or submetered tenant space exceeding 40,000 ft^2 in gross floor area.

10.3.7.2 The minimum energy management requirements for such a system shall be to:

10.3.7.2.1 Read and retain daily totals for all energy measurement instruments;

10.3.7.2.2 Total all energy values weekly and record and retain values placed on a summary report;

10.3.7.2.3 Record and plot hourly outdoor and indoor temperatures against real time and summarize and report for each year in a format compatible with degree-days or bin temperature;

10.3.7.2.4 Based on time schedules, turn on or off any HVAC or service water heating system or equipment;

10.3.7.2.5 Based on time schedules, turn on or off major building lighting and occupancy power circuits;

10.3.7.2.6 Reset local loop control systems for HVAC equipment;

10.3.7.2.7 Monitor and verify operation of heating, cooling and energy delivery systems;

10.3.7.2.8 Monitor and verify operation of lighting and occupant power, auxiliary and service hot water systems;

10.3.7.2.9 Provide readily accessible override controls so that time-based HVAC and lighting controls may be temporarily overridden during off hours; and

10.3.7.2.10 Provide optimum start/stop for HVAC systems.

10.3.8 Completion Requirements

10.3.8.1 The building construction documents shall describe the requirements for placing all energy management systems in operation. This includes check-out procedures and all controls and metering equipment operational information.

10.3.8.2 The building construction documents shall describe the requirements for balancing and check-out procedures for all HVAC systems and equipment. All HVAC system balancing shall be required to be accomplished in a manner to minimize throttling losses. In air systems, fan speeds shall be required to be adjusted to meet design conditions. Water systems shall be required to be proportionally adjusted to minimize throttling losses and then corrected to design flow conditions by trimming the pump impeller or changing pump speed. The design specifications shall state that a pump shall not be brought to final flow conditions by valving.

10.3.8.3 The building construction documents shall describe the requirements for control system testing to assure that control elements are calibrated, ranges adjusted, set points ascertained, and full travel of moveable elements assured. All elements in the control system shall be tested with the system in operation.

10.3.9 Energy Performance Testing

10.3.9.1 The building construction documents shall describe the requirements for determining building energy performance in the completed, operational building.

10.3.9.2 The building energy performance testing shall be performed in winter for heating and in summer for cooling. These tests shall ascertain the in-site capabilities of all HVAC systems and equipment. Internal building loads shall be accounted for in assessing cooling performance. Heating performance shall be determined during unoccupied night time periods during winter weather. If any internal load, such as lighting, contributes to building heating, such loads shall be accounted for in assessing heating performance.

10.3.9.3 Energy use measurements shall be made for the overall building system while HVAC system performance is being tested. Each energy management and control system shall be used to determine energy use for:

10.3.9.3.1 Utility energy;

10.3.9.3.2 Commercial service energy:

10.3.9.3.3 Occupant lighting and receptacle power;

10.3.9.3.4 Production process energy;

10.3.9.3.5 Auxiliary systems and service water heating energy;

10.3.9.3.6 Space heating energy;

10.3.9.3.7 Space cooling energy; and

10.3.9.3.8 HVAC delivery system energy.

10.3.9.3.9 Test periods shall be at least six (6) hours in duration. Hourly outdoor and indoor temperatures, solar intensity during a day test, and wind speed during a night test shall be recorded.

10.3.9.4 The building energy performance test data shall, at minimum, measure energy use and outdoor temperatures hourly for each test period.

10.3.10 Documentation Data Requirements

10.3.10.1 As-built information shall be provided for all the following energy-related features of the building:

10.3.10.1.1 Thermal and solar/optical transmission characteristics of the building envelope, including infiltration;

10.3.10.1.2 The operating characteristics of the HVAC, lighting, and service water heating equipment and systems;

10.3.10.1.3 Internal heat gain contributed by equipment and processes; and

10.3.10.1.4 The operating characteristics of controls.

10.3.10.2 A summary report shall be provided outlining the design basis data for the building envelope, the internal heat gains, the weather extremes, major heating/cooling equipment sizes and sequence of operation.

10.3.10.3 The construction documents shall require that shop drawings, schematic diagrams, control sequence, maintenance manuals, and operating instructions, with data on all HVAC, auxiliary equipment and service water heating systems be provided to the owner.

10.3.10.4 A system balancing report shall be provided that follows National Environmental Balancing Bureau or the Association of Air Balancing Council formats with an extra section summarizing the energy-related values gathered during balancing.

10.3.10.5 An energy performance test report shall be provided showing all the data gathered during the energy performance tests. The results shall be presented in a format that provides convenient comparison with design values.

§ 435.111 Building energy cost compliance alternative.

11.1 General

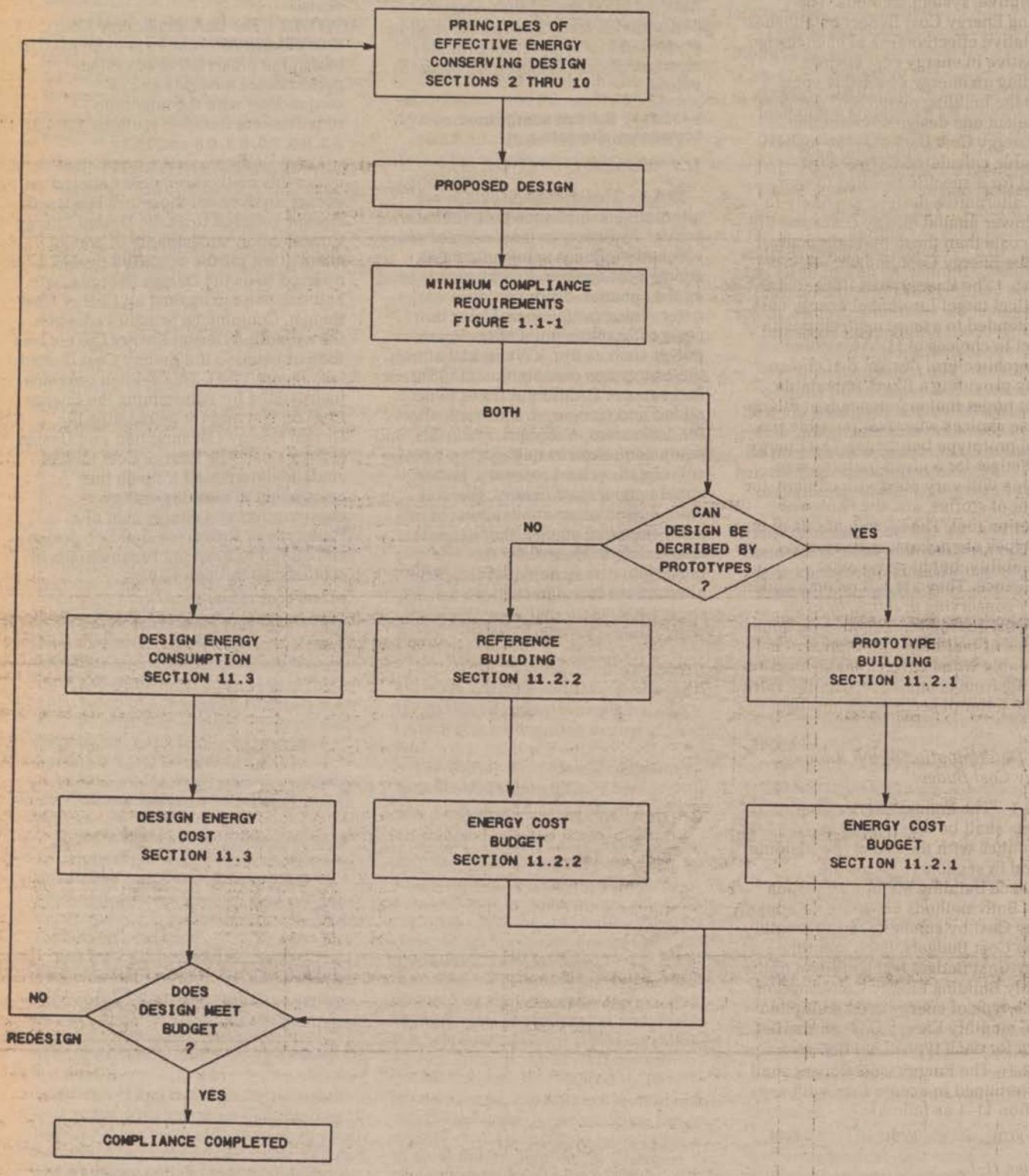
11.1.1 This section provides an alternative compliance path that allows greater flexibility in the design of energy efficient buildings using an annual energy cost method. Energy cost is used as the common denominator in determining compliance. Using unit costs rather than units of energy or power such as Btu, kWh or kW allows the energy use contribution of different fuel sources at different times to be added and compared. This path allows for innovation in designs, materials, and equipment, such as daylighting, passive solar heating, heat recovery, better zonal temperature control, thermal storage, and other applications of off-peak electrical energy, that cannot be adequately evaluated by the prescriptive or system performance alternatives found in sections 3.4, 3.5, 5.4, 5.5, and 7.4. This compliance path is intended for design comparisons only and is not intended to be used to either predict, document, or verify annual energy consumption or annual energy costs.

11.1.2 The Building Energy Cost Compliance Alternative is to be used in lieu of the prescriptive or system performance methods and in conjunction with the minimum requirements found in sections 3.3, 4.3, 5.3, 6.3, 7.3, 8.3, 9.3 and 10.3.

11.1.3 *Compliance.* Compliance under this method requires detailed energy analyses of the entire Proposed Design, referred to as the Design Energy Consumption; an estimate of annual energy cost for the proposed design, referred to as the Design Energy Cost; and comparison against an Energy Cost Budget. Compliance is achieved when the estimated Design Energy Cost is less than or equal to the Energy Cost Budget (see Figure 11–1). This section provides instructions for determining the Energy Cost Budget and for calculating the Design Energy Consumption and Design Energy Cost. The Energy Cost Budget shall be determined through the calculation of monthly energy consumption and energy cost of a Prototype or Reference Building design configured to meet the requirements of sections 3.0 through 10.0.

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Figure 11-1 Building Energy Cost Compliance Alternative



BILLING CODE 6450-01-C

11.1.4 Designers are encouraged to employ the Building Energy Cost Budget compliance method set forth in this section for evaluating proposed design alternatives in preference to using the prescriptive/system methods. The Building Energy Cost Budget establishes the relative effectiveness of each design alternative in energy cost savings, providing an energy cost basis upon which the building owner and designer may select one design over another. This Energy Cost Budget is the highest allowable calculated Energy Cost Budget for a specific building design. Other alternative designs are likely to have lower annual energy costs and life cycle costs than those that minimally meet the Energy Cost Budget.

11.1.5 The Energy Cost Budget is a numerical target for annual energy cost. It is intended to assure neutrality with respect to choices of HVAC system type, architectural design, fuel choice, etc., by providing a fixed, repeatable budget target that is independent of any of these choices wherever possible (i.e., for the prototype buildings). The Energy Cost Budget for a given building size and type will vary only with climate, the number of stories, and the choice of simulation tool. The specifications of the prototypes are necessary to assure repeatability, but have no other significance. They are not recommended energy conserving practice, or even physically reasonable practice for some climates or buildings, but represent a reasonable worst case of energy cost resulting from compliance with the spirit and the letter of sections 3.0 through 10.0.

11.2 Determination of the Annual Energy Cost Budget

11.2.1 The annual Energy Cost Budgets shall be determined in accordance with the Prototype Building Method in section 11.2.5, or the Reference Building Method in section 11.2.5. Both methods calculate an annual Energy Cost by summing the 12 monthly Energy Cost Budgets. Each monthly Energy Cost Budget is the product of the monthly Building Energy Consumption of each type of energy used multiplied by the monthly Energy Cost per unit of energy for each type of energy used.

11.2.2 The Energy Cost Budget shall be determined in accordance with Equation 11–1 as follows:

$$ECB = ECB_{jan} + \ldots ECB_m + \ldots + ECB_{dec}$$

Equation 11–1

Based on:

$$ECB_m = BECON_{mi} \times ECOS_{mi} + \ldots + BECON_{mi} \times ECOS_{mi}$$

Equation 11–2

Where:

ECB = The annual Energy Cost Budget
ECB_m = The monthly Energy Cost Budget
$BECON_{mi}$ = The monthly Budget Energy Consumption of the ith type of energy
$ECOS_{mi}$ = The monthly Energy Cost, per unit of the ith type of energy

11.2.3 The monthly Energy Cost Budget shall be determined using current rate schedules or contract prices available at the building site for all non-depletable types of energy purchased. These costs shall include demand charges, rate blocks, time of use rates, interruptable service rates, delivery charges, taxes, and all other applicable rates for the type, location, operation, and size of the proposed design. The monthly Budget Energy Consumption shall be calculated from the first day through the last day of each month, inclusive.

11.2.4 The Energy Cost Budget, Design Energy Consumption and Design Energy Cost calculations are applicable only for determining compliance with these standards. They are not predictions of actual energy consumption or costs of the proposed building after construction. Actual experience will differ from these calculations due to variations such as occupancy, building operation and maintenance, weather, energy use not covered by these standards, changes in energy rates between design of the building and occupancy, and precision of the calculation tool.

11.2.5 Prototype Building Procedure

11.2.5.1 The Prototype Building procedure shall be used for all building types listed below. For mixed-use buildings the Energy Cost Budget is derived by allocating the floor space of each building type within the floor space of the prototype building. For buildings not listed below, the Reference Building procedure of section 11.2.5 shall be used.

11.2.5.1.1 Prototype buildings include:

(a) Assembly;
(b) Office (Business);
(c) Retail (Mercantile);
(d) Warehouse (Storage);
(e) School (Educational);
(f) Hotel/Motel;
(g) Restaurant;
(h) Health/Institutional; and
(i) Multi-Family.

11.2.5.2 Use of the Prototype Building to Determine the Energy Cost Budget

11.2.5.2.1 Determine the building type of the Proposed Design using the categories in section 11.2.5.1. Using the appropriate Prototype Building characteristics from Tables 11–1 through 11–8, the building shall be simulated using the same gross floor area and number of floors for the Prototype Building as in the Proposed Design.

11.2.5.2.3 The form, orientation, occupancy and use profiles for the Prototype Building shall be fixed as described in section 11.5.3. Envelope, lighting, other internal loads and HVAC systems and equipment shall meet the prescriptive or system requirements of section 3.0 through 10.0 and are standardized inputs.

11.2.6 Reference Building Method

11.2.6.1 The Reference Building procedure shall be used only when the Proposed Design cannot be represented by one or a combination of the Prototype Building listed in Section 11.2.5.1 or the assumptions for the Prototype Building in Section 11.5, such as occupancy and use-profiles, do not reasonably represent the Proposed Design.

11.2.6.2 Use of the Reference Building to Determine the Energy Cost Budget

11.2.6.2.1 Each floor shall be oriented in the same manner for the Reference Building as in the Proposed Design. The form, gross and conditioned floor areas of each floor and the number of floors shall be the same as in the Proposed Design. All other characteristics, such as lighting, envelope and HVAC systems and equipment, shall meet the prescriptive/system requirements of Section 3.0 through 10.0.

11.2.7 Calculation Procedure and Simulation Tool

11.2.7.1 The Prototype or Reference Buildings shall be modeled using the criteria of section 11.5 and section 11.6. The modeling shall use a climate data set appropriate for both the site and the complexity of the energy conserving features of the design. ASHRAE Weather Year for Energy Calculations (WYEC) data or bin weather data shall be a default choice.

11.3 Determination of the Design Energy Consumption and Design Energy Cost

11.3.1 The Design Energy Consumption shall be calculated by modeling the Proposed Design using the same methods, assumptions, climate data, and simulation tool as were used to establish the Energy Cost Budget, except as explicitly stated in 11 5. The Design Energy Cost shall be calculated per Equation 11–3. If the Proposed Design includes cogeneration or non-depletable energy sources designed for the sale of energy off-site, then energy

cost and income resulting from outside sales shall not be used to reduce the Design Energy Costs. Such systems shall be modeled as operating to supply energy needs of the Proposed Design only.

$$DECOS = DECOS_{jan} + \ldots DECOS_{m} \ldots . + DECOS_{dec}$$

Equation 11-3

Based on:

$$DECOS_{m} = DECON_{mi} \times ECOS_{mi} + \ldots + DECON_{mi} \times ECOS_{mi}$$

Equation 11-4

Where:

DECOS = The annual Design Energy Cost
$DECOS_m$ = The monthly Design Energy Cost
$ICON_{mi}$ = The monthly Design Energy Consumption of the ith type of energy
$ECOS_{mi}$ = The monthly Energy Cost per unit of the ith type of energy

The $DECON_{mi}$ shall be calculated from the first day through the last day of the month, inclusive.

11.4 Compliance

11.4.1 If the Design Energy Cost is less than or equal to the Energy Cost Budget, and all of the minimum requirements of sections 3.0 through 10.0 are met, the Proposed Design complies with the standards.

11.5 Standard Calculation Procedure

11.5.1 The Standard Calculation Procedure consists of methods and assumptions for calculating the Energy Cost Budget for the Prototype or Reference Building and the Design Energy Consumption and Design Energy Cost of the Proposed Design. In order to maintain consistency between the Energy Cost Budget and the Design Energy Cost, the input assumptions to be used are stated below. These inputs shall be used to determine the Energy Cost Budget and the Design Energy Consumption.

11.5.2 Prescribed assumptions shall be used without variation. Default assumptions shall be used unless the designer can demonstrate that a different assumption better characterizes the building's energy use over its expected life. No modified default assumptions shall be used in modeling both the Prototype or Reference Building and the Proposed Design unless the designer demonstrates clear cause to do otherwise. Special procedures for speculative buildings are discussed in section 11.5.9. Shell buildings may not use section 11.0.

11.5.3 Orientation and Shape

11.5.3.1 The Prototype Building shall consist of the same number of stories, and gross and conditioned floor area as the Proposed Design, with equal area per story. The building shape shall be rectangular, with a 2.5:1 aspect ratio. The long dimensions of the building shall face East and West. This is intended to provide an energy budget that can be met even if there are unfavorable site constraints. The fenestration shall be uniformly distributed in proportion to exterior wall area.

11.5.3.2 Floor-to-floor height for the Prototype Building shall be 13 ft except for dwelling units in hotels/motels and multi-family high rise residential buildings where floor-to-floor height shall be 9.5 ft.

11.5.3.3 The Reference Building shall consist of the same number of stories, and gross floor area for each story as the Proposed Design. Each floor shall be oriented in the same manner as the Proposed Design. The geometric form shall be the same as the Proposed Design.

11.5.4 Internal Loads

11.5.4.1 The systems and types of energy specified in this section are intended only as constraints in calculating the Energy Cost Budget. They are not intended as either requirements or recommendations for either systems or the type of energy to be used in the Proposed Design or for calculation of Design Energy Cost.

11.5.4.2 Internal loads for multi-family high rise residential buildings are presented in Table 11-1. These assumptions shall be prescribed assumptions. Internal loads for other building types shall be modeled as noted in this subsection.

11.5.4.2.1 Occupancy

(a) Occupancy schedules shall be Default Assumptions. The same assumptions shall be made in computing Design Energy Consumption as were used in calculating the Energy Cost Budget.

(b) Table 11-2, Occupancy Density, establishes the density, in ft^2/person of conditioned floor area, to be used for each building type. Table 11-3, Building Schedule Percentage Multipliers, establishes the percentage of total occupants in the building by hour of the day for each building type.

11.5.4.2.2 Lighting

(a) Interior Lighting Power Allowance (ILPA), for calculating the Energy Cost Budget shall be determined from section 3.0. The lighting power used to calculate the Design Energy Consumption shall be the actual adjusted power for lighting in the Proposed Design. If the lighting controls in the Proposed Design are more effective at saving energy than those required by section 3.3, the actual installed lighting power shall be used along with the schedules reflecting the action of the controls to calculate the Design Energy Consumption. This actual installed lighting power shall not be adjusted by the Power Adjustment Factors listed in Table 3.5-2.

(b) Lighting energy profiles are shown in Table 11-3 that establish the percentage of the lighting load switched-on in each Prototype or Reference Building by hour of the day. These profiles are default assumptions and can be changed when calculating the Energy Cost Budget to provide, for example, a 12 hour rather than an 8 hour work day.

11.5.4.2.3 Receptacles

(a) Receptacle loads and profiles are default assumptions. The same assumptions shall be made in calculating Design Energy Consumption as were used in calculating the Energy Cost Budget.

(b) Receptacle loads include all general service loads that are typical in a building. These loads exclude any process electrical usage and HVAC primary or auxiliary electrical usage. Table 11-4, Receptacle Power Densities, establishes the density, in W/ft^2, to be used for each building type. The receptacle energy profiles shall be the same as the lighting energy profiles in Table 11-3. This profile establishes the percentage of the receptacle load that is switched on by hour of the day and by building type.

11.5.5 Building Exterior Envelope

11.5.5.1 Insulation and Glazing

11.5.5.1.1 The insulation and glazing characteristics of the Prototype and Reference Building envelope shall be determined by using the first column under "Base Case", with no assumed overhangs for the appropriate Alternate Component Tables (ACP) in section 5.0, as defined by climate range. The insulation and glazing characteristics from this ACP are Prescribed Assumptions for Prototype and Reference Buildings for calculating the Energy Cost Budget. In calculating the Design Energy Consumption of the Proposed Design, the envelope characteristics of the Proposed Design shall be used.

11.5.5.2 Infiltration

11.5.5.2.1 For Prototype and Reference Buildings, infiltration assumptions shall be prescribed assumptions for calculating the Energy Cost Budget and default assumptions for the Design Energy Consumption.

Infiltration shall impact perimeter zones only.

11.5.5.2.2 When the HVAC system is switched "on", no infiltration shall be assumed. When the HVAC system is switched "off", the infiltration rate for buildings with or without operable windows shall be assumed to be 0.038 cfm/ft² of gross exterior wall. Hotels/motels and multi-family high rise residential buildings shall have infiltration rates of 0.038 cfm/ft² of gross exterior wall area at all times.

11.5.5.3 Envelope and Ground Absorptivities

11.5.5.3.1 For Prototype and Reference Buildings, absorptivity assumptions shall be prescribed assumptions for computing the Energy Cost Budget and default assumptions for computing the Design Energy Consumption. The solar absorptivity of opaque elements of the building envelope is assumed to be 70%. The solar absorptivity of ground surfaces is assumed to be 80% (20% reflectivity).

11.5.5.4 Window Management

11.5.5.4.1 For the Prototype and Reference Building, window management drapery assumptions shall be prescribed assumptions for setting the Energy Cost Budget. No draperies shall be the default assumption for computing the Design Energy Consumption. Glazing is assumed to be internally shaded by medium-weight draperies, closed one-half time. The draperies shall be modeled by assuming that one-half the area in each zone is draped and one-half is not. If manually-operated draperies, shades, or blinds are to be used in the Proposed Design, the Design Energy Consumption shall be calculated by assuming they are effective over one-half the glazing area in each zone.

11.5.5.5 Shading

11.5.5.5.1 For Prototype and Reference buildings and the Proposed Design, shading by permanent structures, terrain, and vegetation shall be taken into account for computing energy consumption, whether or not these features are located on the building site. A permanent fixture is one that is likely to remain for the life of the Proposed Design.

11.5.6 HVAC Systems and Equipment

11.5.6.1 The specifications and requirements for the HVAC systems of the Prototype and Reference Buildings shall be those in Table 11–5, HVAC Systems for Prototype and Reference Buildings. For the calculation of the Design Energy Consumption, the HVAC systems and equipment of the Proposed Design shall be used.

11.5.6.2 The systems and types of energy presented in Table 11–5 are intended only as constraints in calculating the Energy Cost Budget. They are not intended as either requirements or recommendations for either systems or the type of energy to be used in the Proposed Building or for the calculation of the Design Energy Cost.

11.5.6.3 HVAC Zones

11.5.6.3.1 HVAC zones for calculating the Energy Cost Budget of the Prototype or Reference Building shall consist of at least four perimeter and one interior zones per floor. Prototype Buildings shall have one perimeter zone facing each cardinal direction. The perimeter zones of Prototype and Reference Buildings shall be 15 ft in width, or one-third the narrow dimension of the building, when this dimension is between 30 ft and 45 ft inclusive, or one-half the narrow dimension of the building when this dimension is less than 30 ft. Zoning requirements shall be a default assumption for calculating the Energy Cost Budget. For multi-family high rise residential buildings, the prototype building shall have one zone per dwelling unit. The proposed design shall have one zone per unit unless zonal thermostatic controls are provided within units; in this case, two zones per unit shall be modeled. Building types such as assembly or warehouse may be modeled as a single zone if there is only one space.

11.5.6.3.2 For calculating the Design Energy Consumption, no fewer zones shall be used than were in the Prototype and Reference Buildings. The zones in the simulation shall correspond to the zones provided by the controls in the Proposed Design. Thermally similar zones, such as those facing one orientation on different floors, may be grouped together for the purposes of either the Design Energy Consumption or Energy Cost Budget simulation.

11.5.6.4 Equipment Sizing and Redundant Equipment

11.5.6.4.1 For calculating the Energy Cost Budget of Prototype or Reference Buildings, HVAC equipment shall be sized to meet the requirements of section 7.3.2, without using any of the exceptions. The size of equipment shall be that required for the building without process loads considered. The designer shall determine the final equipment sizing including the process loads by separate calculations. Redundant and/or emergency equipment need not be simulated if it is controlled so that it will not be operated during normal operations of the building. The designer shall document the installation of process equipment and the size of process loads.

11.5.6.4.2 For calculating the Design Energy Consumption, actual air flow rates and installed equipment size shall be used in the simulation, except that excess capacity provided to meet process loads need not be modeled if the process load was not modeled in setting Energy Cost Budget. Equipment sizing in the simulation of the Proposed Design shall correspond to the equipment actually selected for the design and the designer shall not use equipment sized automatically by the simulation tool.

11.5.6.4.3 Redundant and/or emergency equipment need not be simulated if it is controlled to not be operated during normal operations of the building.

11.5.7 Service Water Heating

11.5.7.1 The service water loads for Prototype and Reference Buildings are defined in terms of Btu/h per person in Table 11–6. The service water heating loads from Table 11–6 are prescribed assumptions for multi-family high rise residential buildings and default assumptions for all other buildings. The same service water heating load assumptions shall be made in calculating Design Energy Consumption as were used in calculating the Energy Cost Budget.

11.5.7.2 The service water heating system, including piping losses for the Prototype Building, shall be modeled using the methods of the *ASHRAE Handbook, 1987 HVAC Systems and Applications Volume* using a system that meets all requirements of section 9.0. The service water heating equipment for the Prototype or Reference Building shall be either natural gas or #2 fuel oil, if natural gas is not available at the site, or an electric heat pump.

11.5.7.3 *Exception to section 11.5.7:*

11.5.7.3.1 If electric resistance service water heating is preferable to an electric heat pump when analyzed according to the criteria of section 9.3.7.1 or when service water temperatures exceeding 145 °F are required for a particular application, electric resistance water heating may be used.

11.5.8 Controls

11.5.8.1 All occupied conditioned spaces in the Prototype, Reference and Proposed Design Buildings in all climates shall be simulated as being

both heated and cooled. The assumptions in this subsection are prescribed assumptions. If the Proposed Design does not include equipment for cooling or heating, the Design Energy Consumption shall be determined by the specifications for calculating the Energy Cost Budget as described in Table 11–7.

11.5.8.2 *Exceptions to section 11.5.8:*

11.5.8.2.1 If a building is to be provided with only heating or cooling, both the Prototype or Reference Building and the Proposed Design shall be simulated, using the same assumptions. If such an assumption is made, the analysis shall show that the building interior temperature meets the comfort criteria of *ANSI/ASHRAE 55–1981* "Thermal Environmental Conditions for Human Occupancy," at least 98% of the occupied hours during the year.

11.5.8.2.2 If warehouses are not intended to be mechanically cooled, both the Energy Cost Budget and Design Energy Consumption shall be modeled assuming no mechanical cooling; and

11.5.8.2.3 In climates where winter design temperature (97.5% occurrence) is greater than 59 °F, space heating need not be modeled.

11.5.8.3 Space temperature controls for the Prototype or Reference Building, except multi-family high rise residential buildings shall be set at 70 °F for space heating and 75 °F for space cooling with a deadband per section 7.3.4.5. The system shut off during off-hours shall be according to the schedule in Table 11–3, except that the heating system shall cycle on if any space should drop below the night setback setting of 55 °F. There shall be no similar setpoint during the cooling season. Lesser deadband ranges may be used in calculating the Design Energy Consumption.

11.5.8.3.1 *Exceptions to section 11.5.8.3:*

(a) Setback shall not be modeled in determining either the Energy Cost Budget or Design Energy Cost if setback is not realistic for the Proposed Design, such as 24 hour/day operations. Health facilities need not have night setback during the heating season;

(b) Hotel/motels and multi-family high rise residential buildings shall have a night setback temperature of 60 °F from 11:00 p.m. to 6:00 a.m. during the heating season; and

(c) If deadband controls are not to be installed, the Design Energy Cost shall be calculated with both heating and cooling thermostat setpoints set to the same value between 70 °F and 75 °F inclusive, assumed to be constant for the year.

11.5.8.3.2 For multi-family buildings, the thermostat schedule for the dwelling units shall be as in Table 11–8.

(a) The Prototype Building shall use the single zone schedule. The Proposed Design shall use the two-zone schedule only if zonal thermostatic controls are provided. For Proposed Designs that use heat pumps employing supplementary heat, the controls used to switch on the auxiliary heat source during morning warm-up periods shall be simulated accurately. The thermostat assumptions for multi-family high-rise buildings are prescribed assumptions.

11.5.8.4 When providing for outdoor air ventilation in calculating the Energy Cost Budget, controls shall be assumed to close the outside air intake to reduce the flow of outside air to 0 cfm during setback and unoccupied periods. Ventilation using inside air may still be required to maintain scheduled setback temperature. Outside air ventilation, during occupied periods, shall be as required by *ASHRAE Standard 62–1981*, "Ventilation for Acceptable Indoor Air," or the Proposed Design, whichever is greater.

11.5.8.5 If humidification is to be used in the Proposed Design, the same level of humidification and system type shall be used in the Prototype or Reference Building. If dehumidification requires subcooling of supply air, then reheat for the Prototype or Reference Building shall be from recovered waste heat such as condenser waste heat.

11.5.9 Speculative Buildings

11.5.9.1 Lighting

11.5.9.1.1 The interior lighting power allowance (ILPA) for calculating the Energy Cost Budget shall be determined from Table 3.4–1. The Design Energy Consumption may be based on an assumed adjusted lighting power for future lighting improvements.

(a) The assumption about future lighting power used to calculate the Design Energy Consumption must be documented so that the future installed lighting systems may be in compliance with these standards. Documentation must be provided to enable future lighting systems to use either the Prescriptive method of section 3.4 or the Systems Performance method of section 3.5.

(b) Documentation for future lighting systems that use the Prescriptive method of section 3.4 shall be stated as a maximum adjusted lighting power for the tenant spaces. The adjusted lighting power allowance for tenant spaces shall account for the lighting power provided for the common areas of the building.

(c) Documentation for future lighting systems that use the System Performance method of section 3.5 shall be stated as a required lighting adjustment. The required lighting adjustment is the whole building lighting power assumed in order to calculate the Design Energy Consumption minus the ILPA value from Table 3.4–1 that was used to calculate the Energy Cost Budget. When the required lighting adjustment is less than zero, a complete lighting design must be developed for one or more representative tenant spaces, demonstrating acceptable lighting within the limits of the assumed lighting power allowance.

11.5.9.2 HVAC Systems and Equipment

11.5.9.2.1 If the HVAC system is not completely specified in the plans, the Design Energy Consumption shall be based on reasonable assumptions about the construction of future HVAC systems and equipment. These assumptions shall be documented so that future HVAC systems and equipment may be in compliance with these standards.

11.6 The Simulation Tool

11.6.1 Annual energy consumption shall be simulated with a multi-zone, 8760 hours per year building energy model. The model shall account for:

11.6.1.1 The dynamic heat transfer of the building envelope such as solar and internal gains;

11.6.1.2 Equipment efficiencies as a function of load and climate;

11.6.1.3 Lighting and HVAC system controls and distribution systems by simulating the whole building;

11.6.1.4 The operating schedule of the building including night setback during various times of the year; and

11.6.1.5 Energy consumption information at a level necessary to determine the Energy Cost Budget and Design Energy Cost through the appropriate utility rate schedules.

11.6.2 While the simulation tool should simulate an entire year on an hour by hour basis (8760 hours), programs that approximate this dynamic analysis procedure and provide equivalent results are acceptable.

11.6.3 Simulation tools shall be selected for their ability to simulate accurately the relevant features of the building in question, as shown in the tool's documentation. For example, a single zone model shall not be used to simulate a large, multi-zone building, and a steady-state model such as the degree-day method shall not be used to simulate buildings when equipment efficiency or performance is significantly affected by the dynamic patterns of weather, solar radiation, and occupancy. Relevant energy-related features shall be addressed by a model

such as daylighting, atriums or sunspaces, night ventilation or thermal storage, chilled water storage or heat recovery, active or passive solar systems, zoning and controls of heating and cooling systems, and ground-coupled buildings. In addition, models shall be capable of translating the Design Energy Consumption into energy cost using actual utility rate schedules with the coincidental electrical demand of a building. Examples of public domain models capable of handling such complex building systems and energy cost translations available in the United States are DOE–2.1C and BLAST 3.0 and in Canada, Energy Systems Analysis Series.

11.6.4 All simulation tools shall use scientifically justifiable documented techniques and procedures for modeling building loads, systems, and equipment. The algorithms used in the program shall have been verified by comparison with experimental measurements, loads, systems, and equipment.

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TABLE 11-1
MULTI-FAMILY HIGH RISE RESIDENTIAL BUILDING SCHEDULES
(INTERNAL LOADS PER DWELLING UNIT Btu/h)

One-Zone Dwelling Unit

	OCCUPANTS		LIGHTS	EQUIPMENT	
HOUR	SENSIBLE	LATENT	SENSIBLE	SENSIBLE	LATENT
1	300	260	0	750	110
2	300	260	0	750	110
3	300	260	0	750	110
4	300	260	0	750	110
5	300	260	0	750	110
6	300	260	0	750	110
7	300	260	980	1250	190
8	210	200	840	2600	420
9	100	80	0	1170	180
10	100	80	0	1270	190
11	100	80	0	1270	190
12	100	80	0	2210	330
13	100	80	0	2210	330
14	100	80	0	1270	190
15	100	80	0	1270	190
16	100	80	0	1270	190
17	100	80	0	1270	190
18	300	260	0	3040	450
19	300	260	0	3360	500
20	300	260	960	1490	220
21	300	260	960	1490	220
22	300	260	960	1490	220
23	300	260	960	1060	160
24	300	260	960	1060	160

Two-Zone Dwelling Unit

HOUR	BEDROOMS & BATHROOMS					OTHER ROOMS				
	OCCUPANTS		LIGHTS	EQUIPMENT		OCCUPANTS		LIGHTS	EQUIPMENT	
	Sensible	Latent	Sensible	Sensible	Latent	Sensible	Latent	Sensible	Sensible	Latent
1	300	260	0	100	20	0	0	0	650	90
2	300	260	0	100	20	0	0	0	650	90
3	300	260	0	100	20	0	0	0	650	90
4	300	260	0	100	20	0	0	0	650	90
5	300	260	0	100	20	0	0	0	650	90
6	300	260	0	100	20	0	0	0	650	90
7	200	180	680	200	40	100	80	300	1050	150
8	110	120	240	200	40	100	80	600	2400	380
9	0	0	0	100	20	100	80	0	1070	160
10	0	0	0	100	20	100	80	0	1170	170
11	0	0	0	100	20	100	80	0	1170	170
12	0	0	0	100	20	100	80	0	2110	310
13	0	0	0	100	20	100	80	0	2110	310
14	0	0	0	100	20	100	80	0	1170	170
15	0	0	0	100	20	100	80	0	1170	170
16	0	0	0	100	20	100	80	0	1170	170
17	0	0	0	100	20	100	80	0	1170	170
18	0	0	0	100	20	300	260	0	2940	430
19	0	0	0	100	20	300	260	0	3260	480
20	100	80	320	300	60	200	180	640	1190	160
21	100	80	320	300	60	200	180	640	1190	160
22	150	130	480	700	90	150	130	480	790	130
23	300	260	640	410	70	0	0	320	650	90
24	300	260	640	410	70	0	0	320	650	90

TABLE 11-2
OCCUPANCY DENSITY

BUILDING TYPE	CONDITIONED FLOOR AREA Ft^2/PERSON
Assembly	50
Office	275
Retail	300
Warehouse	15000
School	75
Hotel/Motel	250
Restaurant	100
Health/Institutional	200
Multi-family High Rise Residential	2 per unit[1]

Heat generation: Btu/h per person: 230 Btu/h per person sensible, and 190 Btu/h per person latent.

1. See Table 11-1

TABLE 11-3
BUILDING SCHEDULE PERCENTAGE MULTIPLIERS

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ASSEMBLY	WEEKDAY:	0	0	0	0	0	0	0	0	20	20	20	20	80	80	80	80	80	80	20	20	20	20	10	0
OCCUPANCY	SATURDAY:	0	0	0	0	0	0	0	0	20	20	20	20	60	60	60	60	60	60	60	60	60	80	10	0
	SUNDAY:	0	0	0	0	0	0	0	0	10	10	10	10	10	70	70	70	70	70	70	70	70	70	20	0
ASSEMBLY	WEEKDAY:	0	0	0	0	0	0	40	40	40	75	75	75	75	75	75	75	75	75	75	75	75	75	25	0
LTNG & RECEP	SATURDAY:	0	0	0	0	0	0	0	30	30	50	50	50	50	50	50	50	50	50	50	50	50	50	0	0
	SUNDAY:	0	0	0	0	0	0	0	30	30	30	30	30	65	65	65	65	65	65	65	65	65	65	0	0
ASSEMBLY	WEEKDAY:	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	
HVAC	SATURDAY:	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	
	SUNDAY:	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	
ASSEMBLY	WEEKDAY:	0	0	0	0	0	0	0	0	0	5	5	35	5	5	5	5	5	0	0	0	0	0	0	0
SWH	SATURDAY:	0	0	0	0	0	0	0	0	0	5	5	20	0	0	0	0	0	0	0	65	30	0	0	0
	SUNDAY:	0	0	0	0	0	0	0	0	0	5	5	10	0	0	0	0	0	0	0	65	30	0	0	0
OFFICE	WEEKDAY:	0	0	0	0	0	0	0	10	20	95	95	45	45	95	95	95	95	95	30	10	10	10	0	0
OCCUPANCY	SATURDAY:	0	0	0	0	0	0	0	10	10	30	30	30	30	10	10	10	10	10	0	0	0	0	0	0
	SUNDAY:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OFFICE	WEEKDAY:	0	0	0	0	0	0	10	30	90	90	90	90	80	90	90	90	90	90	30	30	20	20	0	0
LTNG & RECEP	SATURDAY:	0	0	0	0	0	0	10	10	30	30	30	30	15	15	15	15	15	15	0	0	0	0	0	0
	SUNDAY:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OFFICE	WEEKDAY:	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
HVAC	SATURDAY:	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
	SUNDAY:	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
OFFICE	WEEKDAY:	0	0	0	0	0	0	0	15	30	35	35	45	55	50	30	30	40	20	20	10	15	5	0	0
SWH	SATURDAY:	0	0	0	0	0	0	0	10	10	20	15	20	15	15	10	10	10	0	0	0	0	0	0	0
	SUNDAY:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE 11-3 (Continued)
BUILDING SCHEDULE PERCENTAGE MULTIPLIERS

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
RETAIL	WEEKDAY:	0	0	0	0	0	0	0	10	20	50	50	70	70	70	70	80	70	50	50	30	30	0	0	0
OCCUPANCY	SATURDAY:	0	0	0	0	0	0	0	10	20	50	60	80	80	80	80	80	80	60	20	20	20	10	0	0
	SUNDAY:	0	0	0	0	0	0	0	0	0	10	20	20	40	40	40	40	40	20	10	0	0	0	0	0
RETAIL	WEEKDAY:	0	0	0	0	0	0	0	20	50	90	90	90	90	90	90	90	90	90	60	60	50	0	0	0
LTNG & RECEP	SATURDAY:	0	0	0	0	0	0	0	10	30	60	90	90	90	90	90	90	90	90	50	30	30	10	0	0
	SUNDAY:	0	0	0	0	0	0	0	0	0	10	40	40	60	60	60	60	60	40	20	0	0	0	0	0
RETAIL	WEEKDAY:	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF
HVAC	SATURDAY:	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF
	SUNDAY:	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
RETAIL	WEEKDAY:	0	0	0	0	0	0	0	10	20	30	40	55	60	60	45	40	45	45	40	30	30	0	0	0
SWH	SATURDAY:	0	0	0	0	0	0	0	15	20	25	40	50	55	55	45	45	45	45	40	35	25	20	0	0
	SUNDAY:	0	0	0	0	0	0	0	0	0	10	25	30	35	35	30	30	35	30	20	0	0	0	0	0
WAREHOUSE	WEEKDAY:	0	0	0	0	0	0	0	15	70	90	90	90	50	85	85	85	20	0	0	0	0	0	0	0
OCCUPANCY	SATURDAY:	0	0	0	0	0	0	0	0	20	20	20	20	10	10	10	10	0	0	0	0	0	0	0	0
	SUNDAY:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WAREHOUSE	WEEKDAY:	0	0	0	0	0	0	0	40	70	90	90	90	90	90	90	90	90	0	0	0	0	0	0	0
LTNG & RECEP	SATURDAY:	0	0	0	0	0	0	0	0	10	25	25	25	10	10	10	10	0	0	0	0	0	0	0	0
	SUNDAY:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WAREHOUSE	WEEKDAY:	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
HVAC	SATURDAY:	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
	SUNDAY:	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
WAREHOUSE	WEEKDAY:	0	0	0	0	0	0	0	5	25	35	35	45	55	50	35	50	15	0	0	0	0	0	0	0
SWH	SATURDAY:	0	0	0	0	0	0	0	0	0	10	10	15	0	0	0	0	0	0	0	0	0	0	0	0
	SUNDAY:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE 11-3 (Continued)
BUILDING SCHEDULE PERCENTAGE MULTIPLIERS

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
SCHOOL	WEEKDAY:	0	0	0	0	0	0	0	5	75	90	90	80	80	80	80	45	15	5	15	20	20	10	0	0
OCCUPANCY	SATURDAY:	0	0	0	0	0	0	0	0	10	10	10	10	10	0	0	0	0	0	0	0	0	0	0	0
	SUNDAY:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SCHOOL	WEEKDAY:	0	0	0	0	0	0	0	30	85	95	95	95	80	80	80	70	50	50	35	35	35	30	0	0
LTNG & RECEP	SATURDAY:	0	0	0	0	0	0	0	0	15	15	15	15	15	0	0	0	0	0	0	0	0	0	0	0
	SUNDAY:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SCHOOL	WEEKDAY:	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
HVAC	SATURDAY:	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
	SUNDAY:	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
SCHOOL	WEEKDAY:	0	0	0	0	0	0	0	5	30	55	60	70	75	80	60	60	5	5	15	20	20	20	0	0
SWH	SATURDAY:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SUNDAY:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOTEL/MOTEL	WEEKDAY:	90	90	90	90	90	90	70	40	40	20	20	20	20	20	20	30	50	50	50	70	70	80	90	90
OCCUPANCY	SATURDAY:	90	90	90	90	90	90	70	50	50	30	30	30	30	30	30	30	30	50	60	60	60	70	70	70
	SUNDAY:	70	70	70	70	70	70	70	70	50	50	50	30	30	20	20	20	30	40	40	60	60	80	80	80
HOTEL/MOTEL	WEEKDAY:	20	15	10	10	10	20	40	50	40	40	25	25	25	25	25	25	25	25	60	80	90	80	60	30
LTNG & RECEP	SATURDAY:	20	20	10	10	10	10	30	30	40	40	30	25	25	25	25	25	25	25	60	70	70	70	60	30
	SUNDAY:	30	30	20	20	20	20	30	40	40	30	30	30	30	20	20	20	20	20	50	70	80	60	50	30
HOTEL/MOTEL	WEEKDAY:	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
HVAC	SATURDAY:	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
	SUNDAY:	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
HOTEL/MOTEL	WEEKDAY:	20	15	15	15	20	25	50	60	55	45	40	45	40	35	30	30	30	40	55	60	50	55	45	25
SWH	SATURDAY:	20	15	15	15	20	25	40	50	50	50	45	50	50	45	40	40	34	40	55	55	50	55	40	30
	SUNDAY:	25	20	20	20	20	30	50	50	50	55	50	50	40	40	30	30	30	40	50	50	40	50	40	20

TABLE 11-3 (Continued)
BUILDING SCHEDULE PERCENTAGE MULTIPLIERS

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
RESTAURANT	WEEKDAY:	15	15	5	0	0	0	0	5	5	5	20	50	80	70	40	20	25	50	80	80	80	50	35	20
OCCUPANCY	SATURDAY:	30	25	5	0	0	0	0	0	0	5	20	45	50	50	35	30	30	30	70	90	70	65	55	35
	SUNDAY:	20	20	5	0	0	0	0	0	0	0	0	20	25	25	15	20	25	35	55	65	70	35	20	20
RESTAURANT	WEEKDAY:	15	15	15	15	15	20	40	40	60	60	90	90	90	90	90	90	90	90	90	90	90	90	50	30
LTNG & RECEP	SATURDAY:	20	15	15	15	15	15	30	30	60	60	80	80	80	80	80	80	80	90	90	90	90	90	50	30
	SUNDAY:	20	15	15	15	15	15	30	30	50	70	70	70	70	70	70	70	60	60	60	60	60	60	50	30
RESTAURANT	WEEKDAY:	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
HVAC	SATURDAY:	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
	SUNDAY:	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
RESTAURANT	WEEKDAY:	20	15	15	0	0	0	0	60	55	45	40	45	40	35	30	30	30	40	55	60	50	55	45	25
SWH	SATURDAY:	20	15	15	0	0	0	0	0	0	50	45	50	50	45	40	40	35	40	55	55	50	55	40	30
	SUNDAY:	25	20	20	0	0	0	0	0	0	0	50	50	40	40	30	30	30	40	50	50	40	50	40	20
HEALTH	WEEKDAY:	0	0	0	0	0	0	0	10	50	80	80	80	80	80	80	80	80	50	30	30	20	20	0	0
OCCUPANCY	SATURDAY:	0	0	0	0	0	0	0	10	30	40	40	40	40	40	40	40	40	10	10	0	0	0	0	0
	SUNDAY:	0	0	0	0	0	0	0	0	5	5	5	5	5	5	5	5	5	0	0	0	0	0	0	0
HEALTH	WEEKDAY:	0	0	0	0	0	0	0	50	90	90	90	90	90	90	90	90	90	30	30	30	30	30	0	0
LTNG & RECEP	SATURDAY:	0	0	0	0	0	0	0	20	40	40	40	40	40	40	40	40	40	40	10	0	0	0	0	0
	SUNDAY:	0	0	0	0	0	0	0	0	10	10	10	10	10	10	10	10	0	0	0	0	0	0	0	0
HEALTH	WEEKDAY:	0	0	0	0	0	0	0	15	55	65	75	80	70	80	75	70	60	40	15	15	15	5	0	0
SWH	SATURDAY:	0	0	0	0	0	0	0	0	15	25	25	25	20	20	20	20	20	5	0	0	0	0	0	0
	SUNDAY:	0	0	0	0	0	0	0	0	0	15	15	15	15	15	15	0	0	0	0	0	0	0	0	0
HEALTH	WEEKDAY:	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
HVAC	SATURDAY:	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
	SUNDAY:	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
MULTI-FAMILY	WEEKDAY:	0	0	0	5	5	5	80	70	50	40	20	20	25	25	50	50	70	70	35	20	15	15	5	0
SWH SYSTEM	SATURDAY:	0	0	0	0	0	0	20	45	50	50	35	30	30	30	70	90	70	65	55	35	30	25	5	0
	SUNDAY:	0	0	0	0	0	0	0	20	25	25	15	20	25	35	55	65	70	35	20	20	20	20	5	0

NOTES FOR TABLE 11-3

1 Reference: Recommendations for Energy Conservation Standards and Guidelines for New Commercial Buildings, Vol. III, App. A Pacific Northwest Laboratory, PNL-4870-8, 1983."

2 Table 11-3 contains multipliers for converting the nominal values for building occupancy (Table 11-2), receptacle power density (Table 11-4), service hot water (Table 11-6), and lighting energy (Section 3.4 or 3.5) into time series data for estimating building loads under the Standard Calculation Procedure.

For each standard building profile there are three series - one each for weekdays, Saturday and Sunday. There are 24 elements per series. These represent the multiplier that should be used to estimate building loads from 12 a.m. to 1 a.m. (series element #1) through 11 p.m. to 12 a.m. (series element #24). The estimated load for any hour is simply the multiplier from the appropriate standard profile multiplied by the appropriate value from the tables cited above.

3 The Building HVAC System Schedule listed in Table 11-3 lists the hours when the HVAC system shall be considered "on" or "off" in accordance with Section 11.5.5.2.

TABLE 11-4
RECEPTACLE POWER DENSITIES

BUILDING TYPE	W/ft^2 OF CONDTIONED FLOOR AREA
Assembly	0.25
Office	0.75
Retail	0.25
Warehouse	0.1
School	0.5
Hotel/Motel	0.25
Restaurant	0.1
Health	1.0
Multi-Family High Rise Residential	Included in Lights and Equipment portions of Table 11-1

TABLE 11-5

HVAC SYSTEMS OF PROTOTYPE AND REFERENCE BUILDINGS[1, 2]

BUILDING/SPACE OCCUPANCY	SYSTEM NO. (TABLE 11-7)	REMARKS (TABLE 11-7)
Assembly		
a. Churches (any size)	1	
b. $\leq$50,000 ft^2 or $\leq$3 floors	1 or 3	Note 1
c. >50,000 ft^2 or >3 floors	3	
Office		
a. $\leq$20,000 ft^2	1	
b. >20,000 ft^2 and either $\leq$3 floors or $\leq$75,000 ft^2	4	
c. >75,000 ft^2 or >3 floors	5	
Retail		
a. $\leq$50,000 ft^2	1 or 3	Note 1
b. >50,000 ft^2	4 or 5	Note 1
Warehouse	1	Note 1
Schools		
a. $\leq$75,000 ft^2 or $\leq$3 floors	1	
b. >75,000 ft^2 or >3 floors	3	
Hotel/Motel		
a. $\leq$3 stories	2 or 7	Note 5, 7
b. >3 stories	6	Note 6
Restaurant	1 or 3	Note 1
Health		
a. Nursing Home (any size)	2 or 7	Note 7
b. $\leq$15,000 ft^2	1	
c. >15,000 ft^2 and $\leq$50,000 ft^2	4	Note 2
d. >50,000 ft^2	5	Note 2, 3
Multi-Family High Rise Residential >3 stories	7	

[1] Space and Service Water Heating budget calculations shall be made using both electricity and natural gas. The Energy Cost Budget shall be the lower of these two calculations. If natural gas is not available at the rate, electricity and #2 fuel oil shall be used for the budget calculations.

[2] The systems and energy types presented in this Table are not intended as requirements or recommendations for the proposed design. Floor areas below are the total conditioned floor areas for the listed occupancy type in the building. The number of floors indicated below is the total number of occupied floors for the listed occupancy type.

TABLE 11-6
SERVICE HOT WATER QUANTITIES

Building Type	Btu/Person-hour[1]
1. Assembly	215
2. Office	175
3. Retail	135
4. Warehouse	225
5. School	215
6. Hotel/Motel	1110
7. Restaurant	390
8. Health	135
9. Multi-Family High Rise Residential	1700[2]

1. This value is the number to be multiplied by the percentage multipliers of the building profile schedules in Table 11-4. See Table 11-2 for occupancy levels.

2 Total hot water use per dwelling unit for each hour shall be 3400 Btu/h times the multi-family high rise residential building SWH system multiplier from Table 11-3.

TABLE 11-7
HVAC SYSTEM DESCRIPTION FOR PROTOTYPE AND REFERENCE BUILDINGS[1, 2]

HVAC COMPONENT	SYSTEM #1	SYSTEM #2	SYSTEM #3	SYSTEM #4
System Description	Packaged rooftop single zone, one unit per zone	Packaged terminal air conditioner with space heater or heatpump, one heating/ cooling unit per zone	Air handler per zone with central plant	Packaged rooftop VAV w/perimeter reheat
Fan System Design supply circulation rate	Note 9	Note 10	Note 9	Note 9
Supply fan total static pressure	1.3 in. W.C.	N/A	2.0 in. W.C.	3.0 in. W.C.
Combined supply fan, motor, and drive efficiency	40%	N/A	50%	45%
Supply fan control	Constant volume	Fan Cycles with call for heating or cooling	Constant volume	VAV w/forward curved centrifugal fan and variable inlet vanes
Return fan total static pressure	N/A	N/A	0.6 in. W.C.	0.6 in. W.C.
Combined return fan, motor, and drive efficiency	N/A	N/A	25%	25%
Return fan control	N/A	N/A	Constant volume	VAV w/forward curved centrifugal fan and discharge dampers
Cooling System	Direct expansion air cooled	Direct expansion air cooled	Chilled water (Note 11)	Direct expansion air cooled
Heating System	Furnace, heatpump, or electric resistance (Note 8)	Heatpump w/electric resistance auxiliary or air conditioner w/space heater (Note 8)	Hot water (Note 8, 12)	Hot water (Note 12) or electric resistance (Note 8)
Remarks	Drybulb economizer per Section 7.4.3 (barometric relief)	No economizer	Drybulb economizer per Section 7.4.3	Drybulb economizer per Section 7.4.3 Minimum VAV setting per 7.4.3 exception 1. Supply air reset by zone of greatest cooling demand.

Notes:

1. The systems and energy types presented in this Table are not intended as requirements or recommendations for the proposed design.

2. For numbered notes see end of Table 11-7.

TABLE 11-7, (Continued)
HVAC SYSTEM DESCRIPTION FOR PROTOTYPE AND REFERENCE BUILDINGS[1]

HVAC COMPONENT	SYSTEM #5	SYSTEM #6	SYSTEM #7
System Description	Built-up central VAV with perimeter reheat	Four-pipe fan coil per zone with central plant	Water source heat pump
Fan System Design supply circulation rate	Note 9	Note 9	Note 10
Supply fan total static pressure	4.0 in. W.C.	0.5 in. W.C.	0.5 in. W.C.
Combined supply fan, motor, and drive efficiency	55%	25%	25%
Supply fan control	VAV w/air-foil centrifugal fan and AC frequency variable speed drive	Fan cycles w/call for heating or cooling	Fan cycles w/call for heating or cooling
Return fan total static pressure	1.0 in. W.C.	N/A	N/A
Combined return fan, motor, and drive efficiency	30%	N/A	N/A
Return fan control	VAV with air-foil centrifugal fan and AC frequency variable speed drive	N/A	N/A
Cooling System	Chilled water (Note 11)	Chilled water (Note 11)	Closed circuit, centrifugal centrifugal blower type cooling tower sized per Note 11. Circulating pump sized for 2.7 GPM per ton.
Heating System	Hot water (Note 12) or electric resistance (Note 8)	Hot water (Note 12) or electric resistance (Note 8)	Electric or natural draft fossil fuel boiler (Note 8)
Remarks	Drybulb economizer per Section 7.4.3 Minimum VAV setting per Section 7.4.4.3 Supply air reset by zone of greatest cooling demand.	No economizer	Tower fans and boiler cycled to maintain circulating water temperature between 60 and design tower leaving water temperature.

TABLE 11-7
NUMBERED NOTES FOR TABLE 11-7
HVAC SYSTEM DESCRIPTIONS FOR PROTOTYPE AND REFERENCE BUILDINGS

NOTES:

1. For occupancies such as restaurants, assembly and retail which are part of a mixed use building which, according to Table 11-7, includes a central chilled water plant (systems 3, 5, or 6), chilled water system type 3 or 5, as indicated in the Table, shall be used.

2. Constant volume may be used in zones where pressurization relationships must be maintained by code. VAV shall be used in all other areas, in accordance with Section 7.4.4.3.

3. Provide run-around heat recovery systems for all fan systems with minimum outside air intake greater than 75%. Recovery effectiveness shall be 0.60.

4. If a warehouse is not intended to be mechanically cooled, both the Energy Cost Budgets and Design Energy Costs, may be calculated assuming no mechanical cooling.

5. The system listed is for guest rooms only. Areas such as public areas and back-of-house areas shall be served by system 4. Other areas such as offices and retail shall be served by the systems listed in Table 11-7 for these occupancy types.

6. The system listed is for guest rooms only. Areas such as public areas and back-of-house areas shall be served by system 5. Other areas such as offices and retail shall be served by systems listed in Table 11-7 for these occupancy types.

7. System 2 shall be used for the Energy Cost Budget calculation except in areas with design heating outside air temperatures less than 10 ^{o}F.

8. Prototype energy budget cost calculations shall be made using both electricity and natural gas. If natural gas is not available at the site, electricity and #2 fuel oil shall be used. The Energy Cost Budget shall be the lower of these results. Alternately, the Energy Cost Budget may be based on the fuel source that minimizes total operating, maintenance, equipment, and installation costs for the prototype over the building lifetime. Equipment and installation cost estimates shall be prepared using professionally recognized cost estimating tools, guides, and techniques. The methods of analysis shall conform to those of Subpart A of 10 CFR 436. Energy costs shall be based on actual costs to the building as defined in this Section.

9. Design supply air circulation rate shall be based on a supply air to room air temperature difference of 20 ^{o}F. A higher supply air temperature may be used if required to maintain a minimum circulation rate of 4.5 air changes per hour or 15 cfm per person at design conditions to each zone served by the system. If return fans are specified, they shall be sized from the supply fan capacity less the required minimum ventilation with outside air, or 75% of the supply air capacity, whichever is larger. Except where noted, supply and return fans shall be operated continuously during occupied hours.

10. Fan Energy When included in the efficiency rating of the unit as defined in Section 7.4.4.3 need not be modeled explicitly for this system. The fan shall cycle with calls for heating or cooling.

11. Chilled water systems shall be modeled using a reciprocating chiller for systems with total cooling capacities less than 175 tons, and centrifugal chillers for systems with cooling capacities of 175 tons or greater. For systems with cooling of 600 tons or more, the Energy Cost Budget shall be calculated using two centrifugal chillers lead/lag controlled. Chilled water pumps shall be sized using a 12 ^{o}F temperature rise, from 44 ^{o}F to 56 ^{o}F, operating at 75 feet of head and and 65% combined impeller and motor efficiency. Condenser water pumps shall be sized using a 10 ^{o}F temperature rise, operating at 60 feet of head and 60% combined impeller and motor efficiency. The cooling tower shall be an open circuit, centrifugal blower type sized for the larger of 85 ^{o}F leaving water temperature or 10 ^{o}F approach to design wetbulb temperature. The tower shall be controlled to provide a 65 ^{o}F leaving water temperature whenever weather conditions permit, floating up to design leaving water temperature at design conditions. Chilled water supply temperature shall be reset in accordance with Section 7.4.6.2.

12. Hot water system shall include a natural draft fossil fuel or electric boiler per Note 8. The hot water pump shall be sized based on a 30 ^{o}F temperature drop, for 180 ^{o}F to 150 ^{o}F, operating at 60 feet of head and a combined impeller and motor efficiency of 60%. Hot water supply temperature shall be reset in accordance with Section 7.4.6.2.

TABLE 11-8
THERMOSTAT SETTINGS FOR MULTI-FAMILY HIGH-RISE BUILDINGS

TIME OF DAY	SINGLE ZONE DWELLING UNIT		TWO ZONE DWELLING UNIT			
			BEDROOMS/BATHROOMS		OTHER ROOMS	
	HEAT	COOL	HEAT	COOL	HEAT	COOL
Midnight - 6 a.m.	60	78	60	78	60	85
6 a.m. - 9 a.m.	70	78	70	78	70	78
9 a.m. - 5 p.m.	70	78	60	85	70	78
5 p.m. - 11 p.m.	70	78	70	78	70	78
11 p.m. - Midnight	60	78	60	78	60	78

BILLING CODE 6450-01-C

§ 435.112 Building energy compliance alternative.

12.1 General

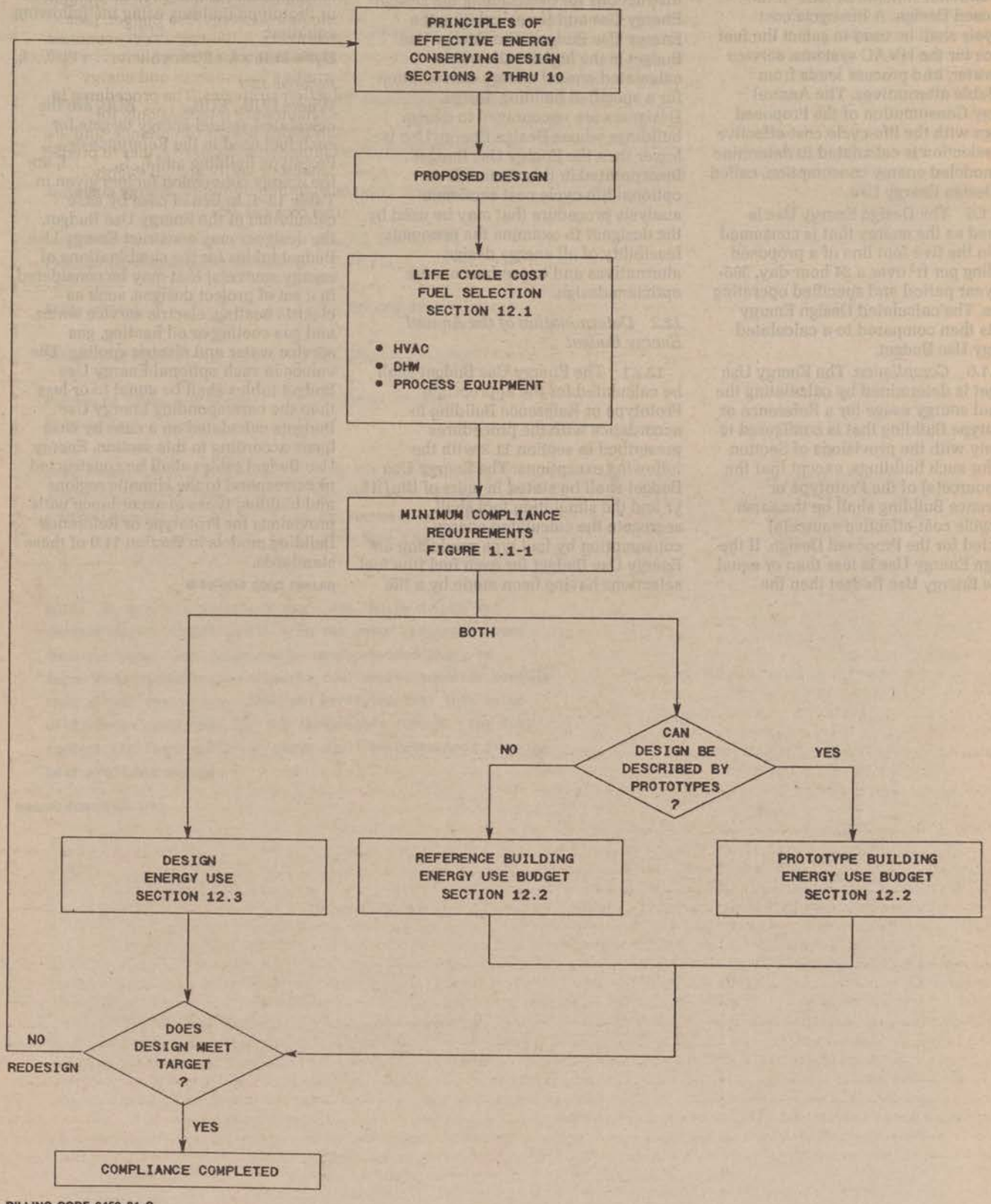
12.1 This section provides an alternative path for compliance with the standards that allow for greater flexibility in the design of energy efficient buildings using an annual energy target method. This path, as does the path used in section 11.0, provides an opportunity for the use of innovative designs, materials, and equipment such as daylighting, passive solar heating, heat recovery, and thermal storage as well as other applications of off-peak electrical energy where they cannot be adequately evaluated by the prescriptive or system performance methods found in sections 3.4, 3.5, 5.4, 5.5, 7.4., and 9.4.

12.1.2 The Building Energy Use Budget Target alternative may be used as an option to the Building Energy Cost Budget method in Section 11.0 and is to be used in lieu of the prescriptive and system performance methods and in conjunction with sections 3.3, 4.3, 5.3, 6.3, 7.3, 8.3, 9.3 and 10.3.

12.1.3 Compliance under this section is demonstrated by showing that the calculated annual energy usage for the Proposed Design is less than or equal to a calculated Energy Use Budget. (See Figure 12–1). A life-cycle cost economic analysis is required to evaluate alternative fuel sources and energy reduction strategies. The procedures in this chapter are intended only for establishing design compliance, and are not intended to be used either to predict, document or verify annual energy consumption or annual energy costs.

BILLING CODE 6450-01-M

Figure 12-1 Building Energy Compliance Alternative



BILLING CODE 6450-01-C

12.1.4 Compliance under the Building Energy Use Budget method requires a detailed energy analysis, using a conventional simulation tool, of the Proposed Design. A life-cycle cost analysis shall be used to select the fuel source for the HVAC systems, service hot water, and process loads from available alternatives. The Annual Energy Consumption of the Proposed Design with the life-cycle cost-effective fuel selection is calculated to determine the modeled energy consumption, called the Design Energy Use.

12.1.5 The Design Energy Use is defined as the energy that is consumed within the five foot line of a proposed building per ft^2 over a 24 hour day, 365-day year period and specified operating hours. The calculated Design Energy Use is then compared to a calculated Energy Use Budget.

12.1.6 *Compliance.* The Energy Use Budget is determined by calculating the annual energy usage for a Reference or Prototype Building that is configured to comply with the provisions of Section 11.0 for such buildings, except that the fuel source(s) of the Prototype or Reference Building shall be the same life-cycle cost-effective source(s) selected for the Proposed Design. If the Design Energy Use is less than or equal to the Energy Use Budget then the proposed design complies with these standards.

12.1.7 This section provides instructions for determining the Design Energy Use and for calculating the Energy Use Budget. The Energy Use Budget is the highest allowable calculated annual energy consumption for a specified building design. Designers are encouraged to design buildings whose Design Energy Use is lower than the Energy Use Budget. Incorporated in this section is an optional life-cycle cost economic analysis procedure that may be used by the designer to examine the economic feasibility of all energy design alternatives and to produce a more optimum design.

12.2 Determination of the Annual Energy Budget

12.2.1 The Energy Use Budget shall be calculated for the appropriate Prototype or Reference Building in accordance with the procedures prescribed in section 11.2 with the following exceptions: The Energy Use Budget shall be stated in units of Btu/ft^2-yr and the simulation tool shall segregate the calculated energy consumption by fuel type producing an Energy Use Budget for each fuel (the fuel selections having been made by a life cycle cost analysis in determining the proposed design).

12.2.2 The Energy Use Budget (EUB) is calculated similarly for the Reference or Prototype Building using the following equation:

$$EUB = EUB_1 \times f_1 + EUB_2 \times f_2 + \ldots\ldots + EUB_i \times f_i$$

Equation 12–1

Where EUB_1, EUB_2, . . . EUB_i are the calculated annual energy targets for each fuel used in the Reference or Prototype building and f_1, f_2, . . . f_i are the energy conversion factors given in Table 12–1. In lieu of case by case calculation of the Energy Use Budget, the designer may construct Energy Use Budget tables for the combinations of energy source(s) that may be considered in a set of project designs, such as electric heating, electric service water, and gas cooling or oil heating, gas service water and electric cooling. The values in such optional Energy Use Budget tables shall be equal to or less than the corresponding Energy Use Budgets calculated on a case by case basis according to this section. Energy Use Budget tables shall be constructed to correspond to the climatic regions and building types in accordance with provisions for Prototype or Reference Building models in Section 11.0 of these standards.

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TABLE 12-1

FUEL CONVERSION FACTORS FOR COMPUTING DESIGN ANNUAL ENERGY USES

FUELS	CONVERSION FACTOR
Electricity	3412 Btu/kilowatt hour
Fuel Oil	138,700 Btu/gallon
Natural Gas	1,031,000 Btu/1000 ft^3
Liquified Petroleum (including Propane and Butane)	95,500 Btu/gallon
Anthracite Coal	28,300,000 Btu/short ton
Bituminous Coal	24,580,000 Btu/short ton
Purchased Steam and Steam from Central Plants	1,000 Btu/Pound
High Temperature or Medium Temperature Water from Central Plants	Use the heat value based on the water actually delivered at the building five foot line

NOTE: At specific locations where the energy source Btu content varies significantly from the value presented above then the local fuel value may be used provided there is supporting documentation from the fuel source supplier stating this actual fuel energy value and verifying that this value will remain consistent for the foreseeable future. The fuel content for fuels not given above shall be determined from the best available source.

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12.3 Determination of the Design Energy Use

12.3.1 The Design Energy Use shall be calculated by modeling the Proposed Design using the same methods, assumptions, climate data, and simulation tool as were used to establish the Energy Use Budget, but with the design features that will be used in the final building design. The simulation tool used shall segregate the calculated energy consumption by fuel type giving an annual Design Energy Use for each fuel. The sum of the Design Energy Uses multiplied by the fuel conversion factors in Table 12–1 yields the Design Energy Use for the proposed design:

$$DEU = DEU_1 \times f_1 + DEU_2 \times f_2 + \ldots + DEU_i \times f_i$$

Equation 12–2

Where f_1, f_2, . . . f_i are the fuel conversion factors in Table 12–1.

12.3.2 Required Life Cycle Cost Analysis for Fuel Selection

12.3.2.1 Fuel sources selected for the Proposed Design and Prototype or Reference buildings shall be determined by considering the energy cost and other costs and benefits that occur during the expected economic life of the alternative.

12.3.2.2 The designer shall use the procedures set forth in Subpart A of 10 CFR Part 436 to make this determination. The fuel selection life cycle cost analysis shall include the following steps:

12.3.2.2.1 Determine the feasible alternatives for energy sources of the Proposed Design's HVAC systems, service hot water, and process loads.

12.3.2.2.2 Model the Proposed Design including the alternative HVAC and service water systems and conduct an annual energy analysis for each fuel source alternative using the simulation tool specified in this section. The annual energy analysis shall be computed on a monthly basis in conformance with section 11.0 of these standards with the exception that all process loads shall be included in the calculation. Separate the output of the analysis by fuel type.

12.3.2.2.3 Determine the unit price of each fuel using information from the utility or other reliable local source. During rapid changes in fuel prices it is recommended that an average fuel price for the previous twelve months be used in lieu of the current price. Calculate the annual energy cost of each energy source alternative in accordance with procedures in Section 11.0 for the Design Energy Cost. Estimate the initial cost of the HVAC and service water systems and other initial costs such as energy distribution lines and service connection fees associated with each fuel source alternative. Estimate other costs and benefits for each alternative including, but not necessarily limited to, annual maintenance and repair, periodic and one time major repairs and replacements and salvage of the energy and service water systems. Cost estimates shall be prepared using professionally recognized cost estimating tools, guides and techniques.

12.3.2.2.4 Perform a life cycle cost analysis using the procedure specified in section 12.3.2.

12.3.2.2.5 Compare the total life cycle cost of each energy source alternative. The alternative with the lowest total life-cycle cost shall be chosen as the energy source for the proposed design.

12.4 Compliance

12.4.1 Compliance with this section is demonstrated if the Design Energy Use is equal to or less than the Energy Use Budget.

$$DEU \leq EUB$$

Equation 12–3

12.4.2 The energy consumption shall be measured at the building five foot line for all fuels. Energy consumed from non-depletable energy sources and heat recovery systems shall not be included in the Design Energy Use calculations. The thermal efficiency of fixtures, equipment, systems or plants in the proposed design shall be simulated by the selected calculation tool.

12.5 Standard Calculation Procedure

12.5.1 The Standard Calculation Procedure consists of methods and assumptions for calculating the Energy Use Budgets for Prototype and Reference Buildings and the Design Energy Use for the Proposed Design. In order to maintain consistency between the Energy Use Budgets and the Design Energy Use, the input assumptions stated in section 11.5 are to be used.

12.5.2 The terms Energy Cost Budget and Design Energy Cost or Consumption used in section 11.0 correlate to Energy Use Budget and Design Energy Use, respectively, in section 12.0.

12.6 The Simulation Tool

12.6.1 The criteria established in Section 11.0 for the selection of a simulation tool shall be followed when using the compliance path prescribed in Section 12.0.

12.7 Life Cycle Cost Analysis Criteria

12.7.1 The following life cycle cost criteria applies to the fuel selection requirements of this chapter and to option life cycle cost analyses performed to evaluate energy conservation design alternatives. The fuel source(s) selection shall be made in accordance with the requirements of Subpart A of 10 CFR Part 436. The implementation calculations for the methodology of Subpart A of 10 CFR Part 436 is provided in *National Bureau of Standards Handbook 135* entitled "Life Cycle Cost Manual for the Federal Energy Management Program." When performing life cycle cost analyses of optional energy conservation opportunities the designer may use the life cycle cost procedures of *Subpart A of 10 CFR Part 436 or OMB Circular A–94* or an equivalent procedure that meets the assumptions listed below:

12.7.1.1 The economic life of the Prototype Building and Proposed Design shall be 25 years. Anticipated replacements or renovations of energy related features and systems in the Prototype or Reference Building and Proposed Design during this period shall be included in their respective life cycle cost calculations.

12.7.1.2 The designer shall follow established professional cost estimating practices when determining the costs and benefits associated with the energy related features of the Prototype or Reference Building and Proposed Design.

12.7.1.3 All costs shall be expressed in current dollars. General inflation shall be disregarded. Differential escalation of prices (prices estimated to rise faster or slower than general inflation) for energy used in the life cycle cost calculations shall be those in effect at the time of the life cycle cost calculations as published by the Department of Energy's Energy Information Administration.

12.7.1.4 The economic effects of taxes, depreciation and other factors not consistent with the practices of *Subpart A of 10 CFR Part 436* shall not be included in the life cycle cost calculation.

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federal register

Monday
January 30, 1989

Part IV

Department of Agriculture
African Development Foundation
Commission on the Bicentennial of the United States Constitution
Federal Home Loan Bank Board
Inter-American Foundation
Peace Corps

Nonprocurement Debarment and Suspension; Final Rules

DEPARTMENT OF AGRICULTURE

7 CFR PART 3017

FEDERAL HOME LOAN BANK BOARD

12 CFR PART 516

PEACE CORPS

22 CFR PART 310

INTER-AMERICAN FOUNDATION

22 CFR PART 1006

AFRICAN DEVELOPMENT FOUNDATION

22 CFR PART 1508

COMMISSION ON THE BICENTENNIAL OF THE UNITED STATES CONSTITUTION

45 CFR PART 2016

Nonprocurement Debarment and Suspension

AGENCIES: Department of Agriculture, African Development Foundation, Commission on the Bicentennial of the United States Constitution, Federal Home Loan Bank Board, Inter-American Foundation, Peace Corps.

ACTION: Final rule.

SUMMARY: This final common rule establishes among the Federal agencies shown above a uniform system of nonprocurement debarment and suspension which 27 other agencies already adopted. The 27 other Federal agencies promulgated an identical final common rule on May 26, 1988. The rules are required under Executive Order 12549 of February 18, 1986. The rules are intended to prevent waste, fraud, and abuse in Federal nonprocurement transactions.

EFFECTIVE DATE: March 1, 1989.

FOR FURTHER INFORMATION CONTACT: See agency-specific preambles for the contact person for each agency.

SUPPLEMENTARY INFORMATION: As part of the Administration's initiatives to curb fraud, waste, and abuse, on February 18, 1986, President Reagan signed Executive Order 12549, "Debarment and Suspension." It was published on February 21, 1986 (51 FR 6370–6371). The Executive Order established governmentwide effect for an agency's nonprocurement debarment or suspension action.

Section 6 of the Executive Order directed the Office of Management and Budget (OMB) to issue guidelines governing implementation of the Order, and section 3 of the Executive Order directed the departments and agencies to promulgate final rules, consistent with these guidelines. On May 26, 1988, 27 agencies issued a final common rule (53 FR 19161–19211), consistent with OMB's guidelines. The common preamble for that publication provides full background for the promulgation of the Executive Order and the history of the common rulemaking.

This second common rulemaking includes the Department of Agriculture and various small Federal agencies which did not participate in the May 26, 1988 publication. On October 20, 1987, the Department of Agriculture published a proposed rule, the same day as 24 of the 27 agencies which co-signed the first common rulemaking. The Department of Agriculture and the 27 agencies shared a common public docket.

The other small Federal agencies which are participating in this second common rule did not issue a prior proposed rule. These agencies have concluded that publication of a notice of proposed rulemaking is unnecessary because the common rulemaking was subjected to extensive public scrutiny. OMB published proposed and final guidelines and 27 agencies issued proposed rules for comments. Therefore, these agencies have decided, for good cause under 5 U.S.C. 553(b)(B), not to publish a proposed rulemaking and to join the governmentwide final common rule.

Text of the Common Rule

The text of the common rule as adopted by the agencies in this document appears below.

PART—GOVERNMENTWIDE DEBARMENT AND SUSPENSION (NONPROCUREMENT)

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—.105 Definitions.
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Subpart E—Responsibilities of GSA, Agency and Participants

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—.505 [Agency] responsibilities.
—.510 Participants' responsibilities.

Appendix A to Part —Certification Regarding Debarment, Suspension, and Other Responsibility Matters—Primary Covered Transactions

Appendix B to Part —Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion—Lower Tier Covered Transactions

Authority: Executive Order 12549 (citation to Agency rulemaking authority).

Subpart A—General

§ —.100 Purpose.

(a) Executive Order 12549 provides that, to the extent permitted by law, Executive departments and agencies shall participate in a governmentwide system for nonprocurement debarment and suspension. A person who is debarred or suspended shall be excluded from Federal financial and nonfinancial assistance and benefits under Federal programs and activities. Debarment or suspension of a participant in a program by one agency shall have governmentwide effect.

(b) These regulations implement section 3 of Executive Order 12549 and the guidelines promulgated by the Office of Management and Budget under section 6 of the Executive Order by:

(1) Prescribing the programs and activities that are covered by the governmentwide system;

(2) Prescribing the governmentwide criteria and governmentwide minimum due process procedures that each agency shall use;

(3) Providing for the listing of debarred and suspended participants, participants declared ineligible (see definition of "ineligible" in § —.105(i)), and participants who have voluntarily excluded themselves from participation in covered transactions;

(4) Setting forth the consequences of a debarment, suspension, determination of ineligibility, or voluntary exclusion; and

(5) Offering such other guidance as necessary for the effective

implementation and administration of the governmentwide system.

(c) Although these regulations cover the listing of ineligible participants and the effect of such listing, they do not prescribe policies and procedures governing declarations of ineligibility.

§ —.105 Definitions.

(a) *Adequate evidence.* Information sufficient to support the reasonable belief that a particular act or omission has occurred.

(b) *Affiliate.* Persons are affiliates of each another if, directly or indirectly, either one controls or has the power to control the other, *or* a third person controls or has the power to control both. Indicia of control include, but are not limited to: interlocking management or ownership, identity of interests among family members, shared facilities and equipment, common use of employees, or a business entity organized following the suspension or debarment of a person which has the same or similar management, ownership, or principal employees as the suspended, debarred, ineligible, or voluntarily excluded person.

(c) *Agency.* Any executive department, military department or defense agency or other agency of the executive branch, excluding the independent regulatory agencies.

(d) *Civil judgment.* The disposition of a civil action by any court of competent jurisdiction, whether entered by verdict, decision, settlement, stipulation, or otherwise creating a civil liability for the wrongful acts complained of; or a final determination of liability under the Program Fraud Civil Remedies Act of 1986 (31 U.S.C. 3801–12).

(e) *Conviction.* A judgment of conviction of a criminal offense by any court of competent jurisdiction, whether entered upon a verdict or a plea, including a plea of nolo contendere.

(f) *Debarment.* An action taken by a debarring official in accordance with these regulations to exclude a person from participating in covered transactions. A person so excluded is "debarred."

(g) *Debarring official.* An official authorized to impose debarment. The debarring official is either:

(1) The agency head, or

(2) An official designated by the agency head.

(h) *Indictment.* Indictment for a criminal offense. An information or other filing by competent authority charging a criminal offense shall be given the same effect as an indictment.

(i) *Ineligible.* Excluded from participation in Federal nonprocurement programs pursuant to a determination of ineligibility under statutory, executive order, or regulatory authority, other than Executive Order 12549 and its agency implementing regulations; for example, excluded pursuant to the Davis-Bacon Act and its implementing regulations, the equal employment opportunity acts and executive orders, or the environmental protection acts and executive orders. A person is ineligible where the determination of ineligibility affects such person's eligibility to participate in more than one covered transaction.

(j) *Legal proceedings.* Any criminal proceeding or any civil judicial proceeding to which the Federal Government or a State or local government or quasi-governmental authority is a party. The term includes appeals from such proceedings.

(k) *Nonprocurement List.* The portion of the *List of Parties Excluded from Federal Procurement or Nonprocurement Programs* compiled, maintained and distributed by the General Services Administration (GSA) containing the names and other information about persons who have been debarred, suspended, or voluntarily excluded under Executive Order 12549 and these regulations, and those who have been determined to be ineligible.

(l) *Notice.* A written communication served in person or sent by certified mail, return receipt requested, or its equivalent, to the last known address of a party, its identified counsel, its agent for service of process, or any partner, officer, director, owner, or joint venturer of the party. Notice, if undeliverable, shall be considered to have been received by the addressee five days after being properly sent to the last address known by the agency.

(m) *Participant.* Any person who submits a proposal for, enters into, or reasonably may be expected to enter into a covered transaction. This term also includes any person who acts on behalf of or is authorized to commit a participant in a covered transaction as an agent or representative of another participant.

(n) *Person.* Any individual, corporation, partnership, association, unit of government or legal entity, however organized, except: foreign governments or foreign governmental entities, public international organizations, foreign government owned (in whole or in part) or controlled entities, and entities consisting wholly or partially of foreign governments or foreign governmental entities.

(o) *Preponderance of the evidence.* Proof by information that, compared with that opposing it, leads to the conclusion that the fact at issue is more probably true than not.

(p) *Principal.* Officer, director, owner, partner, key employee, or other person within a participant with primary management or supervisory responsibilities; or a person who has a critical influence on or substantive control over a covered transaction, whether or not employed by the participant. Persons who have a critical influence on or substantive control over a covered transaction are:

(1) Principal investigators.

(q) *Proposal.* A solicited or unsolicited bid, application, request, invitation to consider or similar communication by or on behalf of a person seeking to participate or to receive a benefit, directly or indirectly, in or under a covered transaction.

(r) *Respondent.* A person against whom a debarment or suspension action has been initiated.

(s) *State.* Any of the States of the United States, the District of Columbia, the Commonwealth of Puerto Rico, any territory or possession of the United States, or any agency of a State, exclusive of institutions of higher education, hospitals, and units of local government. A State instrumentality will be considered part of the State government if it has a written determination from a State government that such State considers that instrumentality to be an agency of the State government.

(t) *Suspending official.* An official authorized to impose suspension. The suspending official is either:

(1) The agency head, or

(2) An official designated by the agency head.

(u) *Suspension.* An action taken by a suspending official in accordance with these regulations that immediately excludes a person from participating in covered transactions for a temporary period, pending completion of an investigation and such legal, debarment, or Program Fraud Civil Remedies Act proceedings as may ensue. A person so excluded is "suspended."

(v) *Voluntary exclusion or voluntarily excluded.* A status of nonparticipation or limited participation in covered transactions assumed by a person pursuant to the terms of a settlement.

§ ___.110 Coverage.

(a) These regulations apply to all persons who have participated, are currently participating or may reasonably be expected to participate in transactions under Federal nonprocurement programs. For purposes of these regulations such transactions

will be referred to as "covered transactions."

(1) *Covered transaction.* For purposes of these regulations, a covered transaction is a primary covered transaction or a lower tier covered transaction. Covered transactions at any tier need not involve the transfer of Federal funds.

(i) *Primary covered transaction.* Except as noted in paragraph (a)(2) of this section, a primary covered transaction is any nonprocurement transaction between an agency and a person, regardless of type, including: Grants, cooperative agreements, scholarships, fellowships, contracts of assistance, loans, loan guarantees, subsidies, insurance, payments for specified use, donation agreements and any other nonprocurement transactions between a Federal agency and a person. Primary covered transactions also include those transactions specially designated by the U.S. Department of Housing and Urban Development in such agency's regulations governing debarment and suspension.

(ii) *Lower tier covered transaction.* A lower tier covered transaction is:

(A) Any transaction between a participant and a person other than a procurement contract for goods or services, regardless of type, under a primary covered transaction.

(B) Any procurement contract for goods or services between a participant and a person, regardless of type, expected to equal or exceed the Federal procurement small purchase threshold fixed at 10 U.S.C. 2304(g) and 41 U.S.C. 253(g) (currently $25,000) under a primary covered transaction.

(C) Any procurement contract for goods or services between a participant and a person under a covered transaction, regardless of amount, under which that person will have a critical influence on or substantive control over that covered transaction. Such persons are:

(*1*) Principal investigators.

(*2*) Providers of federally-required audit services.

(2) *Exceptions.* The following transactions are not covered:

(i) Statutory entitlements or mandatory awards (but not subtier awards thereunder which are not themselves mandatory), including deposited funds insured by the Federal Government;

(ii) Direct awards to foreign governments or public international organizations, or transactions with foreign governments or foreign governmental entities, public international organizations, foreign government owned (in whole or in part) or controlled entities, entities consisting wholly or partially of foreign governments or foreign governmental entities;

(iii) Benefits to an individual as a personal entitlement without regard to the individual's present responsibility (but benefits received in an individual's business capacity are not excepted);

(iv) Federal employment;

(v) Transactions pursuant to national or agency-recognized emergencies or disasters;

(vi) Incidental benefits derived from ordinary governmental operations; and

(vii) Other transactions where the application of these regulations would be prohibited by law.

(b) *Relationship to other sections.* This section describes the types of transactions to which a debarment or suspension under the regulations will apply. Subpart B, "Effect of Action," § ____.200, "Debarment or suspension," sets forth the consequences of a debarment or suspension. Those consequences would obtain only with respect to participants and principals in the covered transactions and activities described in § ____.110(a). Sections ____.325, "Scope of debarment," and ____.420, "Scope of suspension," govern the extent to which a specific participant or organizational elements of a participant would be automatically included within a debarment or suspension action, and the conditions under which affiliates or persons associated with a participant may also be brought within the scope of the action.

(c) *Relationship to Federal procurement activities.* Debarment and suspension of Federal procurement contractors and subcontractors under Federal procurement contracts are covered by the Federal Acquisition Regulation (FAR), 48 CFR Subpart 9.4.

§ ____.115 Policy.

(a) In order to protect the public interest, it is the policy of the Federal Government to conduct business only with responsible persons. Debarment and suspension are discretionary actions that, taken in accordance with Executive Order 12549 and these regulations, are appropriate means to implement this policy.

(b) Debarment and suspension are serious actions which shall be used only in the public interest and for the Federal Government's protection and not for purposes of punishment. Agencies may impose debarment or suspension for the causes and in accordance with the procedures set forth in these regulations.

(c) When more than one agency has an interest in the proposed debarment or suspension of a person, consideration shall be given to designating one agency as the lead agency for making the decision. Agencies are encouraged to establish methods and procedures for coordinating their debarment or suspension actions.

Subpart B—Effect of Action

§ ____.200 Debarment or suspension.

(a) *Primary covered transactions.* Except to the extent prohibited by law, persons who are debarred or suspended shall be excluded from primary covered transactions as either participants or principals throughout the executive branch of the Federal Government for the period of their debarment or suspension. Accordingly, no agency shall enter into primary covered transactions with such debarred or suspended persons during such period, except as permitted pursuant to § ____.215.

(b) *Lower tier covered transactions.* Except to the extent prohibited by law, persons who have been debarred or suspended shall be excluded from participating as either participants or principals in all lower tier covered transactions (see § ____.110(a)(1)(ii)) for the period of their debarment or suspension.

(c) *Exceptions.* Debarment or suspension does not affect a person's eligibility for:

(1) Statutory entitlements or mandatory awards (but not subtier awards thereunder which are not themselves mandatory), including deposited funds insured by the Federal Government;

(2) Direct awards to foreign governments or public international organizations, or transactions with foreign governments or foreign governmental entities, public international organizations, foreign government owned (in whole or in part) or controlled entities, and entities consisting wholly or partially of foreign governments or foreign governmental entities;

(3) Benefits to an individual as a personal entitlement without regard to the individual's present responsibility (but benefits received in an individual's business capacity are not excepted);

(4) Federal employment;

(5) Transactions pursuant to national or agency-recognized emergencies or disasters;

(6) Incidental benefits derived from ordinary governmental operations; and

(7) Other transactions where the application of these regulations would be prohibited by law.

§ ____.205 Ineligible persons.

Persons who are ineligible, as defined in § ____.105(i), are excluded in accordance with the applicable statutory, executive order, or regulatory authority.

§ ____.210 Voluntary exclusion.

Persons who accept voluntary exclusions under § ____.315 are excluded in accordance with the terms of their settlements. [Agency] shall, and participants may, contact the original action agency to ascertain the extent of the exclusion.

§ ____.215 Exception provision.

[Agency] may grant an exception permitting a debarred, suspended, or voluntarily excluded person to participate in a particular covered transaction upon a written determination by the agency head or an authorized designee stating the reason(s) for deviating from the Presidential policy established by Executive Order 12549 and § ____.200 of this rule. However, in accordance with the President's stated intention in the Executive Order, exceptions shall be granted only infrequently. Exceptions shall be reported in accordance with § ____.505(a).

§ ____.220 Continuation of covered transactions.

(a) Notwithstanding the debarment, suspension, determination of ineligibility, or voluntary exclusion of any person by an agency, agencies and participants may continue covered transactions in existence at the time the person was debarred, suspended, declared ineligible, or voluntarily excluded. A decision as to the type of termination action, if any, to be taken should be made only after thorough review to ensure the propriety of the proposed action.

(b) Agencies and participants shall not renew or extend covered transactions (other than no-cost time extensions) with any person who is debarred, suspended, ineligible, or voluntarily excluded, except as provided in § ____.215.

§ ____.225 Failure to adhere to restrictions.

Except as permitted under § ____.215 or § ____.220 of these regulations, a participant shall not knowingly do business under a covered transaction with a person who is debarred or suspended, or with a person who is ineligible for or voluntarily excluded from that covered transaction. Violation of this restriction may result in disallowance of costs, annulment or termination of award, issuance of a stop work order, debarment or suspension, or other remedies, as appropriate. A participant may rely upon the certification of a prospective participant in a lower tier covered transaction that it and its principals are not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction (see Appendix B), unless it knows that the certification is erroneous. An agency has the burden of proof that such participant did knowingly do business with such a person.

Subpart C—Debarment

§ ____.300 General.

The debarring official may debar a person for any of the causes in § ____.305, using procedures established in §§ ____.310 through § ____.314. The existence of a cause for debarment, however, does not necessarily require that the person be debarred; the seriousness of the person's acts or omissions and any mitigating factors shall be considered in making any debarment decision.

§ ____.305 Causes for debarment.

Debarment may be imposed in accordance with the provisions of §§ ____.300 through § ____.314 for:

(a) Conviction of or civil judgment for:

(1) Commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public or private agreement or transaction;

(2) Violation of Federal or State antitrust statutes, including those proscribing price fixing between competitors, allocation of customers between competitors, and bid rigging;

(3) Commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, receiving stolen property, making false claims, or obstruction of justice; or

(4) Commission of any other offense indicating a lack of business integrity or business honesty that seriously and directly affects the present responsibility of a person.

(b) Violation of the terms of a public agreement or transaction so serious as to affect the integrity of an agency program, such as:

(1) A willful failure to perform in accordance with the terms of one or more public agreements or transactions;

(2) A history of failure to perform or of unsatisfactory performance of one or more public agreements or transactions; or

(3) A willful violation of a statutory or regulatory provision or requirement applicable to a public agreement or transaction.

(c) Any of the following causes:

(1) A nonprocurement debarment by any Federal agency taken before March 1, 1989, the effective date of these regulations or a procurement debarment by any Federal agency taken pursuant to 48 CFR Subpart 9.4;

(2) Knowingly doing business with a debarred, suspended, ineligible, or voluntarily excluded person, in connection with a covered transaction, except as permitted in § ____.215 or § ____.220;

(3) Failure to pay a single substantial debt, or a number of outstanding debts (including disallowed costs and overpayments, but not including sums owed the Federal Government under the Internal Revenue Code) owed to any Federal agency or instrumentality, provided the debt is uncontested by the debtor or, if contested, provided that the debtor's legal and administrative remedies have been exhausted; or

(4) Violation of a material provision of a voluntary exclusion agreement entered into under § ____.315 or of any settlement of a debarment or suspension action.

(d) Any other cause of so serious or compelling a nature that it affects the present responsibility of a person.

§ ____.310 Procedures.

[Agency] shall process debarment actions as informally as practicable, consistent with the principles of fundamental fairness, using the procedures in §§ ____.311 through ____.314.

§ ____.311 Investigation and referral.

Information concerning the existence of a cause for debarment from any source shall be promptly reported, investigated, and referred, when appropriate, to the debarring official for consideration. After consideration, the debarring official may issue a notice of proposed debarment.

§ ____.312 Notice of proposed debarment.

A debarment proceeding shall be initiated by notice to the respondent advising:

(a) That debarment is being considered;

(b) Of the reasons for the proposed debarment in terms sufficient to put the respondent on notice of the conduct or transaction(s) upon which it is based;

(c) Of the cause(s) relied upon under § ____.305 for proposing debarment;

(d) Of the provisions of §§ ____.311 through ____.314, and any other [Agency] procedures, if applicable,

governing debarment decisionmaking; and

(e) Of the potential effect of a debarment.

§ ____.313 Opportunity to contest proposed debarment.

(a) *Submission in opposition.* Within 30 days after receipt of the notice of proposed debarment, the respondent may submit, in person, in writing, or through a representative, information and argument in opposition to the proposed debarment.

(b) *Additional proceedings as to disputed material facts.* (1) In actions not based upon a conviction or civil judgment, if the debarring official finds that the respondent's submission in opposition raises a genuine dispute over facts material to the proposed debarment, respondent(s) shall be afforded an opportunity to appear with a representative, submit documentary evidence, present witnesses, and confront any witness the agency presents.

(2) A transcribed record of any additional proceedings shall be made available at cost to the respondent, upon request, unless the respondent and the agency, by mutual agreement, waive the requirement for a transcript.

§ ____.314 Debarring official's decision.

(a) *No additional proceedings necessary.* In actions based upon a conviction or civil judgment, or in which there is no genuine dispute over material facts, the debarring official shall make a decision on the basis of all the information in the administrative record, including any submission made by the respondent. The decision shall be made within 45 days after receipt of any information and argument submitted by the respondent, unless the debarring official extends this period for good cause.

(b) *Additional proceedings necessary.* (1) In actions in which additional proceedings are necessary to determine disputed material facts, written findings of fact shall be prepared. The debarring official shall base the decision on the facts as found, together with any information and argument submitted by the respondent and any other information in the administrative record.

(2) The debarring official may refer disputed material facts to another official for findings of fact. The debarring official may reject any such findings, in whole or in part, only after specifically determining them to be arbitrary and capricious or clearly erroneous.

(3) The debarring official's decision shall be made after the conclusion of the proceedings with respect to disputed facts.

(c) (1) *Standard of proof.* In any debarment action, the cause for debarment must be established by a preponderance of the evidence. Where the proposed debarment is based upon a conviction or civil judgment, the standard shall be deemed to have been met.

(2) *Burden of proof.* The burden of proof is on the agency proposing debarment.

(d) *Notice of debarring official's decision.* (1) If the debarring official decides to impose debarment, the respondent shall be given prompt notice:

(i) Referring to the notice of proposed debarment;

(ii) Specifying the reasons for debarment;

(iii) Stating the period of debarment, including effective dates; and

(iv) Advising that the debarment is effective for covered transactions throughout the executive branch of the Federal Government unless an agency head or an authorized designee makes the determination referred to in § ____.215.

(2) If the debarring official decides not to impose debarment, the respondent shall be given prompt notice of that decision. A decision not to impose debarment shall be without prejudice to a subsequent imposition of debarment by any other agency.

§ ____.315 Settlement and voluntary exclusion.

(a) When in the best interest of the Government, [Agency] may, at any time, settle a debarment or suspension action.

(b) If a participant and the agency agree to a voluntary exclusion of the participant, such voluntary exclusion shall be entered on the Nonprocurement List (see Subpart E).

§ ____.320 Period of debarment.

(a) Debarment shall be for a period commensurate with the seriousness of the cause(s). Generally, a debarment should not exceed three years. Where circumstances warrant, a longer period of debarment may be imposed. If a suspension precedes a debarment, the suspension period shall be considered in determining the debarment period.

(b) The debarring official may extend an existing debarment for an additional period, if that official determines that an extension is necessary to protect the public interest.

However, a debarment may not be extended solely on the basis of the facts and circumstances upon which the initial debarment action was based. If debarment for an additional period is determined to be necessary, the procedures of §§ ____.311 through ____.314 shall be followed to extend the debarment.

(c) The respondent may request the debarring official to reverse the debarment decision or to reduce the period or scope of debarment. Such a request shall be in writing and supported by documentation. The debarring official may grant such a request for reasons including, but not limited to:

(1) Newly discovered material evidence;

(2) Reversal of the conviction or civil judgment upon which the debarment was based;

(3) Bona fide change in ownership or management;

(4) Elimination or other causes for which the debarment was imposed; or

(5) Other reasons the debarring official deems appropriate.

§ ____.325 Scope of debarment.

(a) *Scope in general.* (1) Debarment of a person under these regulations constitutes debarment of all its divisions and other organizational elements from all covered transactions, unless the debarment decision is limited by its terms to one or more specifically identified individuals, divisions or other organizational elements or to specific types of transactions.

(2) The debarment action may include any affiliate of the participant that is specifically named and given notice of the proposed debarment and an opportunity to respond (see §§ ____.311 through ____.314).

(b) *Imputing conduct.* For purposes of determining the scope of debarment, conduct may be imputed as follows:

(1) *Conduct imputed to participant.* The fraudulent, criminal or other seriously improper conduct of any officer, director, shareholder, partner, employee, or other individual associated with a participant may be imputed to the participant when the conduct occurred in connection with the individual's performance of duties for or on behalf of the participant, or with the participant's knowledge, approval, or acquiescence. The participant's acceptance of the benefits derived from the conduct shall be evidence of such knowledge, approval, or acquiescence.

(2) *Conduct imputed to individuals associated with participant.* The fraudulent, criminal, or other seriously improper conduct of a participant may be imputed to any officer, director, shareholder, partner, employee, or other individual associated with the participant who participated in, knew of,

or had reason to know of the participant's conduct.

(3) *Conduct of one participant imputed to other participants in a joint venture.* The fraudulent, criminal, or other seriously improper conduct of one participant in a joint venture, grant pursuant to a joint application, or similar arrangement or with the knowledge, approval, or acquiescence of these participants. Acceptance of the benefits derived from the conduct shall be evidence of such knowledge, approval, or acquiescence.

Subpart D—Suspension

§____.400 General.

(a) The suspending official may suspend a person from any of the causes in §____.405 using procedures established in §§____.410 through ____.413.

(b) Suspension is a serious action to be imposed only when:

(1) There exists adequate evidence of one or more of the causes set out in §____.405, and

(2) Immediate action is necessary to protect the public interest.

(c) In assessing the adequacy of the evidence, the agency should consider how much information is available, how credible it is given the circumstances, whether or not important allegations are corroborated, and what inferences can reasonably be drawn as a result. This assessment should include an examination of basic documents such as grants, cooperative agreements, loan authorizations, and contracts.

§____.405 Causes for suspension.

(a) Suspension may be imposed in accordance with the provisions of §§____.400 through ____.413 upon adequate evidence:

(1) To suspect the commission of an offense listed in §____.305(a); or

(2) That a cause for debarment under §____.305 may exist.

(b) Indictment shall constitute adequte evidence for purposes of suspension actions.

§____.410 Procedures.

(a) *Investigation and referral.* Information concerning the existence of a cause for suspension from any source shall be promptly reported, investigated, and referred, when appropriate, to the suspending official for consideration. After consideration, the suspending official may issue a notice of suspension.

(b) *Decisionmaking process.* [Agency] shall process suspension actions as informally as practicable, consistent with principles of fundamental fairness, using the procedures in §____.411 through §____.413.

§____.411 Notice of suspension.

When a respondent is suspended, notice shall immediately be given:

(a) That suspension has been imposed;

(b) That the suspension is based on an indictment, conviction, or other adequate evidence that the respondent has committed irregularities seriously reflecting on the propriety of further Federal Government dealings with the respondent;

(c) Describing any such irregularities in terms sufficient to put the respondent on notice without disclosing the Federal Government's evidence;

(d) Of the cause(s) relied upon under §____.405 for imposing suspension;

(e) That the suspension is for a temporary period pending the completion of an investigation or ensuing legal, debarment, or Program Fraud Civil Remedies Act proceedings;

(f) Of the provisions of §____.411 through §____.413 and any other [Agency] procedures, if applicable, governing suspension decisionmaking; and

(g) Of the effect of the suspension.

§____.412 Opportunity to contest suspension.

(a) *Submission in opposition.* Within 30 days after receipt of the notice of suspension, the respondent may submit, in person, in writing, or through a representative, information and argument in opposition to the suspension.

(b) *Additional proceedings as to disputed material facts.* (1) If the suspending official finds that the respondents's submission in opposition raises a genuine dispute over facts material to the suspension, respondent(s) shall be afforded an opportunity to appear with a representative, submit documentary evidence, present witnesses, and confront any witness the agency presents, unless:

(i) The action is based on an indictment, conviction or civil judgment, or

(ii) A determination is made, on the basis of Department of Justice advice, that the substantial interests of the Federal Government in pending or contemplated legal proceedings based on the same facts as the suspension would be prejudiced.

(2) A transcribed record of any additional proceedings shall be prepared and made available at cost to the respondent, upon request, unless the respondent and the agency, by mutual agreement, waive the requirement for a transcript.

§____.413 Suspending official's decision.

The suspending official may modify or terminate the suspension (for example, see §____.320(c) for reasons for reducing the period or scope of debarment) or may leave it in force. However, a decision to modify or terminate the suspension shall be without prejudice to the subsequent imposition of suspension by any other agency or debarment by any agency. The decision shall be rendered in accordance with the following provisions:

(a) *No additional proceedings necessary.* In actions: based on an indictment, conviction, or civil judgment; in which there is no genuine dispute over material facts; or in which additional proceedings to determine disputed material facts have been denied on the basis of Department of Justice advice, the suspending official shall make a decision on the basis of all the information in the administrative record, including any submission made by the respondent. The decision shall be made within 45 days after receipt of any information and argument submitted by the respondent, unless the suspending official extends this period for good cause.

(b) *Additional proceedings necessary.* (1) In actions in which additional proceedings are necessary to determine disputed material facts, written findings of fact shall be prepared. The suspending official shall base the decision on the facts as found, together with any information and argument submitted by the respondent and any other information in the administrative record.

(2) The suspending official may refer matters involving disputed material facts to another official for findings of fact. The suspending official may reject any such findings, in whole or in part, only after specificially determining them to be arbitrary or capricious or clearly erroneous.

(c) *Notice of suspending official's decision.* Prompt written notice of the suspending official's decision shall be sent to the respondent.

§____.415 Period of suspension.

(a) Suspension shall be for a temporary period pending the completion of an investigation or ensuring legal, debarment, or Program Fraud Civil Remedies Act proceedings, unless terminated sooner by the suspending official or as provided in paragraph (b) of this section.

(b) If legal or administrative proceedings are not initiated within 12 months after the date of the suspension notice, the suspension shall be terminated unless an Assistant Attorney General or United States Attorney requests its extension in writing, in which case it may be extended for an additional six months. In no event may a suspension extend beyond 18 months, unless such proceedings have been initiated within that period.

(C) The suspending official shall notify the Department of Justice of an impending termination of a suspension, at least 30 days before the 12-month period expires, to give that Department an opportunity to request an extension.

§ ____.420 Scope of suspension.

The scope of a suspension is the same as the scope of a debarment (see § ____.325), except that the procedures of §§ ____.410 through ____.413 shall be used in imposing a suspension.

Subpart E—Responsibilities of GSA, Agency and Participants

§ ____.500 GSA responsibilities.

(a) In accordance with the OMB guidelines, GSA shall compile, maintain, and distribute a list of all persons who have been debarred, suspended, or voluntarily excluded by agencies under Executive Order 12549 and these regulations, and those who have been determined to be ineligible.

(b) At a minimum, this list shall indicate:

(1) The names and addresses of all debarred, suspended, ineligible, and voluntarily excluded persons, in alphabetical order, with cross-references when more than one name is involved in a single action;

(2) The type of action;

(3) The cause for the action;

(4) The scope of the action;

(5) Any termination date for each listing; and

(6) The agency and name and telephone number of the agency point of contact for the action.

§ ____.505 [Agency] responsibilities.

(a) The agency shall provide GSA with current information concerning debarments, suspensions, determinations of ineligibility, and voluntary exclusions it has taken. Until February 18, 1989, the agency shall also provide GSA and OMB with information concerning all transactions in which [Agency] has granted exceptions under § ____.215 permitting participation by debarred, suspended, or voluntarily excluded persons.

(b) Unless an alternative schedule is agreed to by GSA, the agency shall advise GSA of the information set forth in § ____.500(b) and of the exceptions granted under § ____.215 within five working days after taking such actions.

(c) The agency shall direct inquiries concerning listed persons to the agency that took the action.

(d) Agency officials shall check the Nonprocurement List before entering covered transactions to determine whether a participant in a primary transaction is debarred, suspended, ineligible, or voluntarily excluded (Tel. #).

(e) Agency officials shall check the Nonprocurement List before approving principals or lower tier participants where agency approval of the principal or lower tier participant is required under the terms of the transaction, to determine whether such principals or participants are debarred, suspended, ineligible, or voluntarily excluded.

§ ____.510 Participants' responsibilities.

(a) *Certification by participants in primary covered transactions.* Each participant shall submit the certification in Appendix A to this Part for it and its principals at the time the participant submits its proposal in connection with a primary covered transaction, except that States need only complete such certification as to their principals. Participants may decide the method and frequency by which they determine the eligibility of their principals. In addition, each participant may, but is not required to, check the Nonprocurement List for its principals (Tel. #). Adverse information on the certification will not necessarily result in denial of participation. However, the certification, and any additional information pertaining to the certification submitted by the participant, shall be considered in the administration of covered transactions.

(b) *Certification by participants in lower tier covered transactions.* (1) Each participant shall require participants in lower tier covered transactions to include the certification in Appendix B to this part for it and its principals in any proposal submitted in connection with such lower tier covered transactions.

(2) A participant may rely upon the certification of a prospective participant in a lower tier covered transaction that it and its principals are not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction by any Federal agency, unless it knows that the certification is erroneous. Participants may decide the method and frequency by which they determine the eligibility of their principals. In addition, a participant may, but is not required to, check the Nonprocurement List for its principals and for participants (Tel. #).

(c) *Changed circumstances regarding certification.* A participant shall provide immediate written notice to [Agency] if at any time the participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances. Participants in lower tier covered transactions shall provide the same updated notice to the participant to which it submitted its proposal.

Appendix A to Part —Certification Regarding Debarment, Suspension, and Other Responsibility Matters—Primary Covered Transactions

Instructions for Certification

1. By signing and submitting this proposal, the prospective primary participant is providing the certification set out below.

2. The inability of a person to provide the certification required below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective primary participant to furnish a certification or an explanation shall disqualify such person from participation in this transaction.

3. The certification in this clause is a material representation of fact upon which reliance was placed when the department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

4. The prospective primary participant shall provide immediate written notice to the department or agency to whom this proposal is submitted if at any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

5. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of the rules implemeting Executive Order 12549. You may contact the department or agency to which this proposal is being submitted for assistance in obtaining a copy of those regulations.

6. The prospective primary participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared

ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

7. The prospective primary participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion—Lower Tier Covered Transaction," provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

8. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List (Tel. #).

9. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

10. Except for transactions authorized under paragraph 6 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

Certification Regarding Debarment, Suspension, and Other Responsibility Matters—Primary Covered Transactions

(1) The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

(b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and

(d) Have not within a three-year period preceding this application/ proposal has one or more public transactions (Federal, State or local) terminated for cause or default.

(2) Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

Appendix B to Part—Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion—Lower Tier Covered Transactions

Instructions for Certification

1. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

3. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

4. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.

5. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

6. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion—Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

7. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List (Tel. #).

8. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

9. Except for transactions authorized under paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department of agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion—Lower Tier Covered Transactions

(1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department of agency.

(2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

Adoption of the Common Rule

The adoption of the common rule by the agencies in this document appears below.

DEPARTMENT OF AGRICULTURE

Office of the Secretary

7 CFR Part 3017

FOR FURTHER INFORMATION CONTACT: Larry Wilson, Director, Office of Finance and Management, (202) 447–8345.

ADDITIONAL SUPPLEMENTARY INFORMATION:

Background

Executive Order (E.O.) 12549, "Debarment and Suspension," was signed by President Reagan on February 18, 1986, and was published on February 21, 1986 (51 FR 6370–6371). On the same day, the Office of Management and

Budget (OMB) published proposed guidelines on coverage, Governmentwide criteria, and minimum due process procedures (51 FR 6372–6379). OMB issued final guidelines on May 26, 1987, which were then published on May 29, 1987 (52 FR 20360–20369). Section 3 of the E.O. 12549 required Executive departments and agencies to issue regulations implementing E.O. 12549 that were consistent with the OMB guidelines.

On October 20, 1987, 20 Executive departments and agencies published a proposed common rule which implemented the final OMB guidelines (52 FR 39035–39042). Instead of joining the proposed common rule, USDA published a proposed rule in Part 3015 that was consistent with the OMB guidelines. In the proposed regulation, USDA consolidated some of the provisions included in the OMB guidelines and added USDA specific internal procedures.

On May 26, 1988, 27 Executive departments and agencies published a final common rule (53 FR 19159–19211). Upon reconsideration of the issue of joining the common rule, USDA is publishing this final rule which follows the text of the final common rule published on May 26, 1988. USDA's scope is limited to domestic assistance transactions and USDA has added material to reflect generally internal organization and procedures, which was included in the USDA October proposed rule. This final rule is published in newly created Part 3017 in order to be consistent with the common rule format and numbering scheme.

The comments received by USDA in response to its proposed rule were addressed in the preamble to the final common rule.

Summary of Additional Provisions

Definition of agency. USDA has amended the definition of "agency" in § 3017.105 of the common rule by adding paragraph (c)(1). USDA has a decentralized nonprocurement debarment and suspension system. Paragraph (c)(1) is intended to make clear, that when used in the context of USDA internal procedures or requirements, any organizational unit of the U.S. Department of Agriculture that has been delegated authority by the Secretary of Agriculture to carry out primary covered transactions is an agency.

Decentralized debarring and suspending official. USDA will have decentralized debarring and suspending officials. The debarring and suspending officials will be at the Under Secretary, Assistant Secretary, or agency head levels in USDA. The authority to act as a debarring or suspending official cannot be delegated below the agency head level. In § 3017.105, paragraphs (g)(2)(i), (g)(3), (t)(2)(i), and (t)(3) have been added to specify the USDA levels of authority that can impose debarment and suspension.

Appeals. USDA has provided for an administrative appeal by the debarred or suspended participant. Consequently, the following have been added to the common rule:

—In § 3017.105, paragraph (w) has been added to indicate that the appeals officer would be any administrative law judge of USDA's Office of Administrative Law Judges.
—§ 3017.515 is added to set out the appeal procedure for participants debarred or suspended by USDA agencies.

Scope. In § 3017.110, paragraph (a)(3) is added to point out that this rule's coverage only extends to domestic assistance transactions. Debarment or suspension of purchasers of timber is governed by Subpart C, Part 223, Title 36.

Investigation and referral. Section 3017.311, under debarment, and § 3017.410, under suspension, have been amended by adding paragraphs to the common rule that specify USDA internal procedures as follows:

—Paragraphs § 3017.311(a) and § 3017.410(a)(1) allow USDA agencies to decide the appropriate resources to be used in conducting an investigation concerning a proposed debarment or suspension.
—Paragraphs § 3017.311(b) and § 3017.410(a)(2) has been added to state the minimum documentation which USDA agencies must provide to the debarring or suspending officials when referring information on proposed debarment or suspension actions.
—Paragraphs § 3017.311(c) and § 3017.410(a)(3) make the debarring and suspending officials responsible for deciding whether to initiate the proposed debarment or the suspension after reviewing the documentation provided in support of the action.
—Paragraphs § 3017.311(d) and § 3017.410(a)(4) state the Office of the General Counsel's (OGC) responsibility for reviewing the documentation referred to the debarring or suspending official for legal sufficiency and for coordinating any actions with the Department of Justice.

Notices. USDA specific requirements for notices have been added to § 3017.312, § 3017.314, § 3017.411, and § 3017.413 as follows:

—Paragraph § 3017.312(a)(1) adds that information on the specific debarment action proposed is to be included in the notice of proposed debarment.
—Paragraphs § 3017.314(d)(3) and § 3017.413(c)(1) and concluding text at the end of § 3017.312 and § 3017.411 are added to state that the notice of proposed debarment and notice of suspension are to be signed by the debarring or suspending official taking the action and are to be transmitted by certified mail, return receipt requested. The amendments also say that OGC will be consulted on all proposed actions prior to the notice being sent to the respondent.
—Paragraph § 3017.413(c)(1) has also been added to set out the minimum provisions USDA agencies must include in a suspension notice to the respondent.

Debarring and suspending officials' decisions. Provisions concerning USDA debarring and suspending officials' decisions have been added to § 3017.314 and § 3017.413 as follows:

—Paragraphs § 3017.314(a)(1) and § 3017.413(a)(2) are added to state the debarments and suspensions will be considered decided where the respondent(s) fail(s) to timely provide any submission in opposition.

DOJ advice on additional proceedings. USDA has added the following internal procedures on how the suspending official should proceed when the Department of Justice (DOJ) has advised against additional proceedings to determine disputed facts:

—In § 3017.412, paragraphs (b)(1)(ii) (A) and (B) have been added to provide that the suspending official will (1) determine, based on DOJ advice and after coordination with OGC, that the substantial interests of the Federal Government in pending or contemplated legal proceedings that are based on the same facts as the suspension would be prejudiced, and (2) only continue the suspension if he/she determines, after consultation with OGC, that there is enough evidence to proceed without using the facts that DOJ has advised would prejudice DOJ's contemplated proceedings.
—In § 3017.413, paragraph (a)(1) has been added to provide that the USDA suspending official shall stop the suspension immediately when additional proceedings to determine disputed facts have been denied on the basis of DOJ advice. USDA also reserves the right to proceed with the

suspension when DOJ completes its legal proceedings or is satisfied that the suspension will no longer prejudice their proceedings.

Period of suspension. Paragraph § 3017.415(c)(1) has been added to specify that the suspending official shall notify OGC who will notify DOJ of the impending termination of a suspension.

USDA agency responsibilities. The following provisions have been added to delineate specific USDA agency responsibilities:

—Paragraph § 3017.505(b)(1) has been added to state that all communication with the General Services Administration (GSA) regarding additions, deletions, or changes to the Nonprocurement List shall be in writing.

—Paragraph § 3017.505(f) is added to require USDA agencies to provide the Office of Finance and Management (OFM) with copies of information provided to GSA on debarred, suspended, voluntarily excluded, and ineligible persons and information concerning exceptions.

—Paragraph § 3017.505(g) has been added to provide that USDA agencies shall notify GSA and OFM in writing of debarment or suspension decisions overturned on appeal under § 3017.515.

Impact Analysis

Executive Order 12291

Executive Order 12291 requires that a regulatory impact analysis be prepared for "major" rules which are defined in the Order as any rule that has an annual effect on the national economy of $100 million or more, or certain other specified effects. We do not believe that this regulation will have an annual economic impact of $100 million or more or the other effects listed in the Order. For this reason, we have determined that this regulation is not a major rule within the Meaning of the Order.

Regulatory Flexibility Act of 1980

The Regulatory Flexibility Act (5 U.S.C. 605(b)) requires that, for each rule with a "significant economic impact on a substantial number of small entities," an analysis be prepared describing the rule's impact on small entities and identifying any significant alternatives to the rule that would minimize the economic impact on small entities.

We certify that this regulation will not have a significant economic impact on a substantial number of small entities.

Paperwork Reduction Act

We certify that this rule does not impose any reporting or recordkeeping requirements under the Paperwork Reduction Act of 1980, 44 U.S.C. Chapter 35.

List of Subjects in 7 CFR Part 3017

Grant programs (Agriculture), Debarment and suspension.

Issued at Washington, DC.
January 19, 1989.
Peter C. Myers,
Deputy Secretary.

Accordingly, Title 7 of the Code of Federal Regulations is amended as follows:

1. Part 3017 is added to read as set forth below:

PART 3017—GOVERNMENTWIDE DEBARMENT AND SUSPENSION (NONPROCUREMENT)

Subpart A—General

Sec.
3017.100 Purpose.
3017.105 Definitions.
3017.110 Coverage.
3017.115 Policy.

Subpart B—Effect of Action

3017.200 Debarment or suspension.
3017.205 Ineligible persons.
3017.210 Voluntary exclusion.
3017.215 Exception provision.
3017.220 Continuation of covered transactions.
3017.225 Failure to adhere to restrictions.

Subpart C—Debarment

3017.300 General.
3017.305 Causes for debarment.
3017.310 Procedures.
3017.311 Investigation and referral.
3017.312 Notice of proposed debarment.
3017.313 Opportunity to contest proposed debarment.
3017.314 Debarring official's decision.
3017.315 Settlement and voluntary exclusion.
3017.320 Period of debarment.
3017.325 Scope of debarment.

Subpart D—Suspension

3017.400 General.
3017.405 Causes for suspension.
3017.410 Procedures.
3017.411 Notice of suspension.
3017.412 Opportunity to contest suspension.
3017.413 Suspending official's decision.
3017.415 Period of suspension.
3017.420 Scope of suspension.

Subpart E—Responsibilities of GSA, Agency and Participants

3017.500 GSA responsibilities.
3017.505 USDA responsibilities.
3017.510 Participants' responsibilities.
3017.515 Appeal of debarment or suspension decisions.

Appendix A to Part 3017—Certification Regarding Debarment, Suspension, and Other Responsibility Matters—Primary Covered Transaction.

Appendix B to Part 3017—Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion—Lower Tier Covered Transactions.

Authority: 5 U.S.C. 301; E.O. 12549, 51 FR 6370, 3 CFR 1986 Comp., p. 189.

Cross Reference: For additional information, see related documents published at 52 FR 20360, May 29, 1988; 53 FR 19160, May 26, 1988; and 53 FR 34774, September 6, 1988.

2. Part 3017 is further amended as follows:

a. "[Agency]" is removed and "USDA" is added wherever "[Agency]" appears.

b. Section 3017.105 is amended by adding paragraphs (c)(1), (g)(2)(i), (g)(3), (t)(2)(i), (t)(3), (w), and (x) to read as follows:

§ 3017.105 Definitions.

* * * * *

(C) * * *

(1) A USDA agency, when used in the context of USDA internal procedures or requirements, is any organizational unit of the U.S. Department of Agriculture with authority delegated in 7 CFR Part 2 to carry out primary covered transactions under USDA programs.

* * * * *

(g) * * *

(2) * * *

(i) In USDA, the authority to act as a debarring official is not delegated below the agency head level.

(3) In USDA, each Under Secretary, Assistant Secretary, or agency head who has been delegated authority in Part 2 of this title to carry out a covered transaction is authorized to act as a debarring official in connection with such covered transaction.

* * * * *

(t) * * *

(2) * * *

(i) In USDA, the authority to act as a suspending official is not delegated below the agency head level.

(3) In USDA, each Under Secretary, Assistant Secretary, or agency head who has been delegated authority in Part 2 of this title to carry out a covered transaction is authorized to act as a suspending official in connection with such covered transaction.

* * * * *

(w) *Appeals officer.* Any administrative law judge of the Office of Administrative Law Judges, Department of Agriculture.

(x) *USDA.* U.S. Department of Agriculture.

C. Section 3017.110 is amended by adding paragraph (a)(3) to read as follows:

§ 3017.110 Coverage

* * * * *

(a) * * *

(3) *Department of Agriculture covered transactions.* These Department of Agriculture regulations apply only to the Department's domestic assistance covered transactions (whether by a Federal agency, recipient, subrecipient, or intermediary) including, except as noted in paragraph (a)(2) of this section: Grants, cooperative agreements, scholarships, fellowships, loans, loan guarantees, subsidies, insurance, payments for specified use, and donation agreements; subawards, subcontracts, and transactions at any tier that are charged as direct or indirect costs, regardless to type (including subtier awards under awards which are statutory entitlement or mandatory awards).

* * * * *

d. Section 3017.311 is amended by adding paragraphs (a) through (d) at the end of the undesignated paragraph to read as follows:

§ 3017.311 Investigation and referral.

* * * * *

(a) The decision to utilize agency personnel, the Office of Inspector General (OIG), or other appropriate resources to conduct the investigation and develop the documentation required by paragraph (b) of this section is the responsibility of the agency possessing the information.

(b) Basic documentation shall be developed that includes but is not limited to:

(1) The name of the specific respondent(s) against whom the action is being proposed or taken;

(2) The reason(s) for proposing the debarment;

(3) The specific cause(s) for debarment from § 3017.305;

(4) A short narrative stating the facts and/or describing other evidence supporting the reason(s) for the need to debar;

(5) The recommended time period for the debarment;

(6) The potential effect and/or consequences that the debarment will have on the respondent(s);

(7) Copies of any relevant support documentation identified under this section.

(c) The debarring official shall be responsible for deciding whether or not to proceed with the action.

(d) The Office of the General Counsel (OGC) is responsible for:

(1) Reviewing the documentation and notices for legal sufficiency, and

(2) Providing any necessary coordination with the Department of Justice (DOJ).

e. Section 3017.312 is amended by adding paragraph (a)(1) and by adding concluding text to the section to read as follows:

§ 3017.312 Notice of proposed debarment.

* * * * *

(a) * * *

(1) Information on the specific debarment action proposed must be given.

* * * * *

In USDA, the notice to the respondent shall be signed by the debarring official and transmitted by certified mail, return receipt requested. OGC will be consulted on all proposed debarment actions prior to the notice being sent to the respondent.

f. Section 3017.314 is amended by adding paragraphs (a)(1) and (d)(3) to read as follows:

§ 3017.314 Debarring official's decision.

(a) * * *

(1) In USDA debarment actions where respondent(s) fail(s) to timely provide any submission in opposition, the action will be considered decided.

* * * * *

(d) * * *

(3) In USDA, the notice to the respondent shall be in writing, signed by the debarring official, and transmitted by certified mail, return receipt requested. The OGC will be consulted on all debarment actions prior to the notice being sent to the respondent.

g. Section 3017.410 is amended by adding paragraphs (a) (1) through (4) to read as follows:

§ 3017.410 Procedures.

(a) * * *

(1) The decision to utilize agency personnel, OIG or other appropriate resources to conduct the investigation and develop the documentation required by paragraph (a)(2) of this section is the responsibility of the agency possessing the information.

(2) Basic documentation shall be developed that includes but is not limited to:

(i) The name of the specific respondent(s) against whom the suspension is to be taken;

(ii) The reason(s) for proposing the suspension;

(iii) The specific cause(s) for suspension from § 3017.405;

(iv) A short narrative stating the facts and/or describing other evidence supporting the reason(s) for the suspension;

(v) The recommended time period for the suspension;

(vi) The potential effect and/or consequences that the suspension will have on the respondent(s);

(vii) Copies of any relevant support documentation identified under this section.

(3) The suspending official shall be responsible for deciding whether or not to proceed with the suspension.

(4) OGC is responsible for:

(i) Reviewing the documentation and notice for legal sufficiency, and

(ii) Providing any necessary coordination with DOJ.

* * * * *

h. Section 3017.411 is amended by adding concluding text at the end of the section to read as follows:

§ 3017.411 Notice of suspension.

* * * * *

In USDA, the notice to the respondent shall be signed by the suspending official and transmitted by certified mail, return receipt requested. OGC will be consulted on all proposed suspension actions prior to the notice being sent to the respondent.

i. Section 3017.412 is amended by adding paragraphs (b)(1)(ii) (A) and (B) to read as follows:

§ 3017.412 Opportunity to contest suspension.

* * * * *

(b) * * *

(1) * * *

(ii) * * *

(A) In USDA, such determination shall be made by the suspending official, after coordination with OGC.

(B) In USDA, the suspending official shall continue the suspension only if he/she determines, after consultation with OGC, that there is enough evidence to proceed without using the facts that DOJ has advised would prejudice the contemplated legal proceedings. If there is not such evidence, the suspension shall be terminated immediately without prejudice.

* * * * *

j. Section 3017.413 is amended by adding paragraphs (a) (1) and (2) and (c)(1) to read as follows:

§ 3017.413 Suspending official's decision.

* * * * *

(a) * * *

(1) In USDA, the suspending official shall terminate the suspension immediately when additional proceedings to determine disputed facts have been denied on the basis of DOJ advice. The agency, however, reserves the right to proceed with the suspension when DOJ completes its legal proceedings or is satisfied that the

suspension no longer will prejudice DOJ's proceedings.

(2) In USDA suspension actions, where the respondent(s) fail(s) to timely provide any submission in opposition, the action will be considered decided.

* * * * *

(c) * * *

(1) In USDA, the notice to the respondent shall be signed by the suspending official and transmitted by certified mail, return receipt requested. OGC will be consulted on all proposed suspension actions prior to the notice being sent to the respondent. The notice shall include the following:

(i) Reference to the previously issued notice of suspension;

(ii) The reason(s) for the action taken in this notice.

(iii) The effective date(s) of the suspension taken in this notice and, where appropriate, the period of the suspension;

(iv) Advice that the suspension is effective for covered transactions throughout the executive branch of the Federal Government unless an agency head or a designee authorized by an agency head makes a determination referred to in § 3017.215.

k. Section 3017.415 is amended by adding paragraph (c)(1) to read as follows:

§ 3017.415 Period of suspension.

* * * * *

(c) * * *

(1) The suspending official shall notify OGC which will notify DOJ of the impending termination of a suspension.

l. Section 3017.505 is amended by adding paragraphs (b)(1), (f), and (g) to read as follows:

§ 3017.505 USDA responsibilities.

* * * * *

(b) * * *

(1) Each communication with GSA regarding additions, deletions, or changes to the Nonprocurement List shall be in writting.

* * * * *

(f) USDA agencies shall provide the Office of Finance and Management (OFM) with a copy of any information provided to GSA pursuant to this section.

(g) USDA agencies shall notify GSA and OFM, in writing, of debarment or suspension decisions overturned on appeal under § 3017.515.

m. Section 3017.515 is added to read as follows:

§ 3017.515 Appeal of debarment or suspension decisions.

(a) If a decision to debar or suspend is made by a debarring or suspending official under § 3017.314 or § 3017.413, the respondent may appeal the decision to the Office of Administrative Law Judges (OALJ) by filing the appeal, in writing, to the Hearing Clerk, OALJ, United States Department of Agriculture, Washington, DC 20250. The appeal must be filed within 30 days of receiving the decision and it must specify the basis of the appeal. The decision of a debarring or suspending official under § 3017.314 or § 3017.413 may be vacated by the assigned appeals officer if the officer determines that the decision is:

(1) Not in accordance with law;

(2) Not based on the applicable standard of evidence; or

(3) Arbitrary and capricious and an abuse of discretion.

(b) The appeals officer will base his/her decision solely upon the administrative record.

(c) Within 90 days of the date the appeal is filed with USDA's OALJ Hearing Clerk, the appeals officer will notify, in writing, the respondent(s) and the debarring or suspending official, who took the action being appealed, of his/her decision in the appeal. The notice must specify the reason(s) for the decision made by the appeals officer.

(d) The appeals officer's decision is final and is not appealable within USDA.

FEDERAL HOME LOAN BANK BOARD

12 CFR Part 516

[Res. No.: 89-65]

Date: January 25, 1989.

FOR FURTHER INFORMATION CONTACT: Caroline Morris, Office of General Counsel, Legal Counsel Division, (202) 377-6431.

List of Subjects in 12 CFR Part 516

Administrative practice and procedure, Debarment and suspension (nonprocurement), Fraud, Reporting and recordkeeping requirements.

Title 12 of the Code of Federal Regulations is amended as set forth below.

By the Federal Home Loan Board.

John M. Buckley,

Secretary.

1. Part 516 is added to read as set forth at the end of the common preamble.

PART 516—GOVERNMENTWIDE DEBARMENT AND SUSPENSION (NONPROCUREMENT)

Subpart A—General

Sec.
516.100 Purpose.
516.105 Definitions.
516.110 Coverage.
516.115 Policy

Subpart B—Effect of Action

516.200 Debarment or suspension.
516.205 Ineligible persons.
516.210 Voluntary exclusion.
516.215 Exception provision.
516.220 Continuation of covered transactions.
516.225 Failure to adhere to restrictions.

Subpart C—Debarment

516.300 General.
516.305 Causes for debarment.
516.310 Procedures.
516.311 Investigation and referral.
516.312 Notice of proposed debarment.
516.313 Opportunity to contest proposed debarment.
516.314 Debarring official's decision.
516.315 Settlement and voluntary exclusion
516.320 Period of debarment.
516.325 Scope of debarment.

Subpart D—Suspension

516.400 General.
516.405 Causes for suspension.
516.410 Procedures.
516.411 Notice of suspension.
516.412 Opportunity to contest suspension.
516.413 Suspending official's decision.
516.415 Period of suspension.
516.420 Scope of suspension.

Subpart E—Responsibilities of GSA, Agency and Participants

516.500 GSA responsibilities.
516.505 Board responsibilities.
516.510 Participants' responsibilities.

Appendix A to Part 516—Certification Regarding Debarment, Suspension, and Other Responsibility Matters—Primary Covered Transactions

Appendix B to Part 516—Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion—Lower Tier Covered Transactions

Authority: E.O. 12549, 12 U.S.C. 1437(a).

Cross Reference: For additional information, see related documents published at 52 FR 20360, May 29, 1987; 53 FR 19160, May 26, 1988; and 53 FR 34474, September 6, 1988.

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2. Part 516 is further amended as follows:

a. "[Agency]" is removed and "Board" is added wherever "[Agency]" occurs.

b. Section 516.105 is amended by adding paragraph (w) to read as follows:

§ 516.105 Definitions.

* * * * *

(w) *Board.* Federal Home Loan Bank Board.

PEACE CORPS

22 CFR Part 310

FOR FURTHER INFORMATION CONTACT: John. K. Scales, 202–254–3114 (FTS 254–3114).

List of Subjects in 22 CFR Part 310

Debarment and suspension (nonprocurement).

Title 22 of the Code of Federal Regulations is amended as set forth below.

Loret Miller Ruppe,

Director.

1. Part 310 is added to read as set forth at the end of the common preamble.

PART 310—GOVERNMENTWIDE DEBARMENT AND SUSPENSION (NONPROCUREMENT)

Subpart A—General

Sec.

310.100 Purpose.
310.105 Definitions.
310.110 Coverage.
310.115 Policy.

Subpart B—Effect of Action

310.200 Debarment and suspension.
310.205 Ineligible persons.
310.210 Voluntary exclusion.
310.215 Exception provision.
310.220 Continuation of covered transactions.
310.225 Failure to adhere to restrictions.

Subpart C—Debarment

310.300 General.
310.305 Causes for debarment.
310.310 Procedures.
310.311 Investigation and referral.
310.312 Notice of proposed debarment.
310.313 Opportunity to contest proposed debarment.
310.314 Debarring official's decision.
310.315 Settlement and voluntary exclusion.
310.320 Period of debarment.
310.325 Scope of debarment.

Subpart D—Suspension

310.400 General.
310.405 Causes for suspension.
310.410 Procedures.
310.411 Notice of suspension.
310.412 Opportunity to contest suspension.
310.413 Suspending official's decision.
310.415 Period of suspension.
310.420 Scope of suspension.

Subpart E—Responsibilities of GSA, Agency and Participants

310.500 GSA responsibilities.
310.505 Peace Corps responsibilities.
310.510 Participants' responsibilities.
Appendix A to Part 310—Certification Regarding Debarment, Suspension, and Other Responsibility Matters—Primary Covered Transactions.
Appendix B to Part 310—Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion—Lower Tier Covered Transactions.

Authority: Executive Order 12549, 22 U.S.C. 2503.

Cross Reference: For additional information, see related documents published at 52 FR 20360, May 29, 1987; 53 FR 19160, May 26, 1988; and 53 FR 34474, Sept. 6, 1988.

2. Part 310 is further amended by removing "[Agency]" and adding "Peace Corps" whenever "[Agency]" occurs.

INTER-AMERICAN FOUNDATION

22 CFR Part 1006

FOR FURTHER INFORMATION CONTACT: Charles Berk at 703–841–3812.

List of Subjects in 22 CFR Part 1006

Debarment and suspension (nonprocurement).

Title 22 of the Code of Federal Regulations is amended as set forth below.

Charles M. Berk,

General Counsel.

1. Part 1006 is added to read as set forth at the end of the common preamble.

PART 1006—GOVERNMENTWIDE DEBARMENT AND SUSPENSION (NONPROCUREMENT)

Subpart A—General

Sec.

1006.100 Purpose.
1006.105 Definitions.
1006.110 Coverage.
1006.115 Policy.

Subpart B—Effect of Action

1006.200 Debarment or suspension.
1006.205 Ineligible persons.
1006.210 Voluntary exclusion.
1006.215 Exception provision.
1006.220 Continuation of covered transactions.
1006.225 Failure to adhere to restrictions.

Subpart C—Debarment

1006.300 General.
1006.305 Causes for debarment.
1006.310 Procedures.
1006.311 Investigation and referral.
1006.312 Notice of proposed debarment.
1006.313 Opportunity to contest proposed debarment.
1006.314 Debarring official's decision.
1006.315 Settlement and voluntary exclusion.
1006.320 Period of debarment.
1006.325 Scope of debarment.

Subpart D—Suspension

1006.400 General.
1006.405 Causes for suspension.
1006.410 Procedures.
1006.411 Notice of suspension.
1006.412 Opportunity to contest suspension.
1006.413 Suspending official's decision.
1006.415 Period of suspension.
1006.420 Scope of suspension.

Subpart E—Responsibilities of GSA, Agency and Participants

1006.500 GSA responsibilities.
1006.505 Inter-American Foundation responsibilities.
1006.510 Participants' responsibilities.
Appendix A to Part 1006—Certification Regarding Debarment, Suspension, and Other Responsibility Matters—Primary Covered Transactions
Appendix B to Part 1006—Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion—Lower Tier Covered Transactions

Authority: Executive Order 12549, 22 U.S.C. 209f.

Cross Reference: For additional information, see related documents published at 52 FR 20360, May 29, 1987; 53 FR 19160, May 26, 1988; and 53 FR 34474, September 6, 1988.

2. Part 1006 is further amended by removing "[Agency]" and adding "Inter-American Foundation" wherever "[Agency]" occurs.

AFRICAN DEVELOPMENT FOUNDATION

22 CFR Part 1508

FOR FURTHER INFORMATION CONTACT: Paul S. Magid, (202) 673–3916.

List of Subjects in 22 CFR Part 1508

Administrative practice and procedure, Grant programs—foreign relations, Grants administration, Debarment and suspension (nonprocurement).

Title 22 of the Code of Federal Regulations is amended as set forth below.

Leonard H. Robinson, Jr.,

President.

1. Part 1508 is added to read as set forth at the end of the common preamble.

PART 1508—GOVERNMENTWIDE DEBARMENT AND SUSPENSION (NONPROCUREMENT)

Subpart A—General

Sec.

1508.100 Purpose.
1508.105 Definitions.
1508.110 Coverage.
1508.115 Policy.

Subpart B—Effect of Action

1508.200 Debarment or suspension.
1508.205 Ineligible persons.
1508.210 Voluntary exclusion.
1508.215 Exception provision.

1508.220 Continuation of covered transactions.
1508.225 Failure to adhere to restrictions.

Subpart C—Debarment

1508.300 General.
1508.305 Causes for debarment.
1508.310 Procedures.
1508.311 Investigation and referral.
1508.312 Notice of proposed debarment.
1508.313 Opportunity to contest proposed debarment.
1508.314 Debarring official's decision.
1508.315 Settlement and voluntary exclusion.
1508.320 Period of debarment.
1508.325 Scope of debarment.

Subpart D—Suspension

1508.400 General.
1508.405 Causes for suspension.
1508.410 Procedures.
1508.411 Notice of suspension.
1508.412 Opportunity to contest suspension.
1508.413 Suspending official's decision.
1508.415 Period of suspension.
1508.420 Scope of suspension.

Subpart E—Responsibilities of GSA, Agency and Participants

1508.500 GSA responsibilities.
1508.505 African Development Foundation responsibilities.
1508.510 Participants' responsibilities.
Appendix A to Part 1508—Certification Regarding Debarment, Suspension, and Other Responsibility Matters—Primary Covered Transactions
Appendix B to Part 1508—Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion—Lower Tier Covered Transactions

Authority: Executive Order 12549, Section 506(a)(4) of Title V of the International Security and Development Cooperation Act of 1980 (Pub. L. 96–533).

Cross Reference: For additional information, see related documents published at 52 FR 20360, May 29, 1987; 53 FR 19160, May 26, 1988; and 53 FR 34474, Sept. 6, 1988.

2. Part 1508 is further amended by removing "[Agency]" and adding "African Development Foundation" wherever "[Agency]" occurs.

COMMISSION ON THE BICENTENNIAL OF THE UNITED STATES CONSTITUTION

45 CFR Part 2016

FOR FURTHER INFORMATION CONTACT: Patrick O'Meara, Director of Administration, (202) 653–5326.

List of Subjects in 45 CFR Part 2016

Debarment and suspension (nonprocurement), Grant programs, Grants administration, Reporting and recordkeeping requirements.

Title 45 of the Code of Federal Regulations is amended by adding a new Part 2016 as set forth below:

Ronald Trowbridge,

Acting Staff Director.

1. Part 2016 is added to read as set forth at the end of the common preamble.

PART 2016—GOVERNMENTWIDE DEBARMENT AND SUSPENSION (NONPROCUREMENT)

Subpart A—General

Sec.
2016.100 Purpose.
2016.105 Definitions.
2016.110 Coverage.
2016.115 Policy.

Subpart B—Effect of Action

2016.200 Debarment or suspension.
2016.205 Ineligible persons.
2016.210 Voluntary exclusion.
2016.215 Exception provision.
2016.220 Continuation of covered transactions.
2016.225 Failure to adhere to restrictions.

Subpart C—Debarment

2016.300 General.
2016.305 Causes for debarment.
2016.310 Procedures.
2016.311 Investigation and referral.
2016.312 Notice of proposed debarment.
2016.313 Opportunity to contest proposed debarment.
2016.314 Debarring official's decision.
2016.315 Settlement and voluntary exclusion.
2016.320 Period of debarment.
2016.325 Scope of debarment.

Subpart D—Suspension

2016.400 General.
2016.405 Causes for suspension.
2016.410 Procedures.
2016.411 Notice of suspension.
2016.412 Opportunity to contest suspension.
2016.413 Suspending official's decision.
2016.415 Period of suspension.
2016.420 Scope of suspension.

Subpart E—Responsibilities of GSA, Agency, and Participants

2016.500 GSA responsibilities.
2016.505 Commission responsibilities.
2016.510 Participant's responsibilities.
Appendix A to Part 2016—Certification Regarding Debarment, Suspension, and Other Responsibility Matters—Primary Covered Transactions
Appendix B to Part 2016—Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion—Lower Tier Covered Transactions

Authority: Executive Order 12549; Pub. L. 98–101, as amended; and Title V of Pub. L. 99–194.

Cross Reference: For additional information, see related documents published at 52 FR 20360, May 29, 1987; 53 FR 19160, May 26, 1988; and 53 FR 34474, September 6, 1988.

2. Part 2016 is further amended as follows:

a. "[Agency]" is removed and "Commission" is added wherever "[Agency]" occurs.

b. Section 2016.105 is amended by adding paragraph (w) to read as follows:

§ 2016.105 Definitions.

* * * * *

(w) *Commission.* Commission on the Bicentennial of the United States Constitution.

[FR Doc. 89–2066 Filed 1–27–89; 8:45 am]

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federal register

Monday
January 30, 1989

Part V

Department of Transportation

Research and Special Programs Administration

Revision of the Emergency Response Guidebook; Notice of Public Meetings and Request for Comments

DEPARTMENT OF TRANSPORTATION

Research and Special Programs Administration

Revision of the Emergency Response Guidebook; Notice of Public Meetings; Request for Comments

AGENCY: Research and Special Programs Administration (RSPA), Department of Transportation (DOT).

ACTION: Notice of public meetings; request for comments.

SUMMARY: This notice advises interested persons that RSPA will conduct a series of public meetings to discuss revisions to the "1987 Emergency Response Guidebook" (DOT P 5800.4), and solicits comments on questions posed in this notice.

DATES: *Public Meetings.* Public meetings will be held on February 22, 1989, May 2, 1989, and June 28, 1989 from 9:30 a.m. to 5:00 p.m. in room 3200 of the Nassif Building, 400 Seventh Street SW., Washington, DC, 20590. Additional meetings addressing technical issues (e.g. specific guide pages, evacuation distances) will also be held at a later date, to be determined. Any person planning to attend the public meetings should notify John C. Hess (DHM-51) by telephone or in writing, at least two weeks in advance of each meeting date.

Comments: Comments should be submitted on or before June 13, 1989.

ADDRESSES: *Comments.* Written comments should be submitted to the Office of Hazardous Materials Transportation (DHM-51), Research and Special Programs Administration, U.S. Department of Transportation, 400 Seventh Street SW., Washington, DC 20590. Persons wishing to receive confirmation of the receipt of their comments should include a self-addressed stamped postcard.

FOR FURTHER INFORMATION CONTACT: John C. Hess, Research and Special Programs Administration (DHM-51), 400 Seventh Street SW., Washington, DC 20590; (202) 366-4474.

SUPPLEMENTARY INFORMATION:

Background

The Hazardous Materials Transportation Act (HMTA) (Pub. L. 93-633) empowers the Secretary of Transportation to issue and enforce regulations deemed necessary to ensure the safe transport of hazardous materials. In addition, the HMTA directs the Secretary of Transportation to provide law-enforcement and firefighting personnel with technical information and advice for meeting emergencies connected with the transportation of hazardous materials.

The "Emergency Response Guidebook" (ERG) was developed by RSPA for use by emergency services personnel and provides guidance for initial response to hazardous materials incidents. Since 1989, it has been the goal of RSPA for all emergency response vehicles, including firefighting, police, and rescue squad vehicles, to carry a copy of the ERG. To accomplish this, RSPA has published three editions of the ERG and has distributed over 2.5 million copies to emergency services agencies, without charge.

RSPA is initiating the revision process for the 1990 edition of the ERG and actively solicits comments from interested parties, especially those who have used the ERG during hazardous materials incidents. Issues which have been brought to the attention of RSPA and which are discussed below include: (1) Public participation in the ERG revision process, (2) the use of the Chemical Transportation Emergency Center (CHEMTREC) as the point of contact for emergency assistance, (3) the scope and applicability of the ERG, (4) recommendations on protective clothing, (5) health effects of short and/or long-term exposure to hazardous materials, (6) consistency among sources of technical information, (7) assumptions used to calculate isolation and evacuation distances, (8) protection of the public by in-place sheltering, and (9) distribution of the ERG to emergency services organizations.

Discussion of Issues

Public Participation in the Revision Process

This solicitation for comments and notice of public meetings is part of an on-going public process to revise the ERG. The last page of the 1987 ERG contains the following statement:

> Constructive comments concerning this ERG are solicited; in particular, comments concerning its use in handling incidents involving hazardous materials.

The ERG was developed in cooperation with representatives of other Federal agencies and a number of private sector organizations including the International Association of Fire Chiefs, the International Association of Fire Fighters, the International Association of Chiefs of Police, the Fire Marshals Association of North America, the National Fire Protection Association, the Chemical Manufacturers Association, the Institute of Makers of Explosives, and the Association of American Railroads. The issues raised by participants were discussed and decisions made by RSPA concerning the final content of the ERG.

The International Association of Fire Fighters (IAFF) has asserted, however, that "The DOT ERG has never had public review other than through an 'unofficial' and very unbalanced advisory committee."

Application of the ERG—Initial Action or Response

The introduction to the 1987 ERG includes the following statement:

> This guidebook was developed for use by fire fighters, police and emergency services personnel. It is a guide for initial action to be taken to protect yourselves and the general public when you are called to handle incidents involving hazardous materials. The information given is intended to provide guidance primarily during the initial phases of an incident * * *.

Further, the ERG's introductory comments concerning the use of water and other control agents for fires and spills state:

> The guidebook is not intended for use during the cleanup phase for spilled materials, nor should you use it to determine your compliance with any regulations. You should be familiar with this guidebook before you actually need to use it in an emergency.

In the Introduction to the Initial Isolation/Evacuation Tables for Selected Hazardous Materials, the ERG states:

> This table is useful only for the first 20-30 minutes of an incident involving volatile hazardous liquids or gases shipped in drums, cylinders, bulk or multiple container loads. There are several good reasons for suggesting that the use of the table be limited specifically to the initial phase of a no-fire spill incident during transport.

Despite these statements, there have been concerns expressed about possible confusion regarding the definition of the word, "initial". In correspondence to the National Transportation Safety Board (NTSB), the IAFF stated, "While it is our understanding that the Board believes 'initial response' is limited to the first 15 minutes of an incident, there is nothing in the ERG to alert emergency responders to this interpretation * * *. The Board's interpretation has no basis in fact for the manner in which the ERG is actually utilized."

Use of CHEMTREC as the Contact for Emergency Assistance

RSPA has included the toll-free telephone number of CHEMTREC on each of the ERG's guide pages, as the contact for emergency assistance. CHEMTREC, operating since 1971, receives calls 24 hours a day, seven days a week to provide immediate advice on the nature of products and steps to be taken in handling the early stages of a problem. CHEMTREC then notifies the shippers of the material involved to solicit more detailed information and appropriate follow-up, including on-scene assistance when feasible. CHEMTREC is operated by the Chemical Manufacturers Association (CMA). RSPA also includes the telephone number of the National Response Center (NRC) in the ERG. NRC is funded by various Federal agencies, including RSPA, and is operated by the U.S. Coast Guard. The NRC's primary function is to receive notifications required by Federal Law and Regulations from those responsible for releases of hazardous substances into the environment and to provide technical information and guidance to Federal On-Scene Coordinators (U.S. Coast Guard or Environmental Protection Agency (EPA) officials). The 1987 ERG contains a special notice concerning these reporting requirements and also states, "Communication with CHEMTREC does not constitute compliance with this [reporting] requirements. Direct notification of the National Response Center * * * satisfies this requirement. CHEMTREC will, if requested, connect a caller directly to the NRC so that he may report a hazardous substance release."

The IAFF objects to the inclusion of the CHEMTREC telephone number in the ERG, having stated:

> The primary function of CHEMTREC has been to identify and provide a communication link between emergency personnel, such as fire fighters, with shippers and manufacturers * * *. It is important to note that we fully concur with OHMT's past assessment that having a single contact is a vital element to reduce confusion during emergency incidents. However, the time has come to change that sole contact telephone to the Environmental Protection Agency's [sic] National Response Center * * * Like CHEMTREC, the NRC telephone number is a toll-free number that is staffed seven days a week, 24 hours a day. While the NRC has the capability to immediately patch has caller into CHEMTREC's informational and referral service, utilizing the NRC has other valuable functions not performed by CHEMTREC. Notification of the NRC serves many vital functions, including permitting federal involvement to proceed in a timely and effective manner. Unfortuantely, CHEMTREC does not routinely notify any federal agency of hazardous materials incidents, possibly precluding necessary federal intervention.

Recommendations on Personal Protective Clothing

RSPA defines "fire fighters' protective clothing (structural)" in the 1987 ERG as "* * * protection to restrict inhalation of, ingestion of, or skin contact with hazardous vapors, liquids and solids", and references the OSHA Fire Brigades Standard (29 CFR 1910.156) as a minimum standard. The 1987 ERG specifically cautions, "This turnout clothing may not provide adequate protection from poisonous vapors or liquids encountered during hazardous materials incidents." Some ERG guide pages indicate that "structural firefighter's protective clothing will provide limited protection" while other pages caution, "structural firefighter's protective clothing is not effective with these materials".

The IAFF has objected to the ERG's mention of structural firefighting protective clothing, stating, "The ERG's position that limited exposure wearing structural fire fighting protective clothing may be achieved without any health risks is erroneous." The IAFF has also asserted, "* * * the ERG acts more like an excuse for emergency response personnel to intervene and attempt to mitigate hazardous materials emergencies without proper protective clothing and equipment."

Consistency Among Technical information Sources

RSPA is aware of the existence of several sources of technical information concerning the handling of hazardous materials incidents by emergency responders. Accordingly, drafts of the 1987 edition of the ERG were reviewed with such groups as the Bureau of Explosives of the Association of American Railroads and the National Fire Protection Association, both of which also publish information concerning hazardous materials emergency response. Since these organizations reviewed drafts of the ERG, the first response advice in their publications is generally the same as in the ERG.

There have been concerns expressed however, about potential harm or confusion resulting from conflicting advice from different sources being given to emergency responders. The NTSB has recommended that DOT should:

> Investigate the adequacy and consistency of hazardous materials emergency guides and other advice available to local officials for us in controlling hazardous materials released during transportation, and take necessary steps to assure that they provide sufficient and consistent guidance and advice to help local officials control hazardous materials spills quickly and effectively.

The IAFF has also stated that, "The fact also remains that there are serious difficulties and contradictions in the ERG with other materials."

Assumptions Used in Calculating Evacuation and Isolation Distances

The 1987 ERG includes initial isolation/evacuation tables for certain hazardous materials whose vapors behave like poison gases. The introduction to the table cautions the user that "The table is useful only for the first 20–30 minutes of an incident * * *." The 1987 ERG further states that the development of the isolation and evacuation distances was based on parameters which, "* * * more than 75 percent of the time, regardless of the season, or time of day, in the continental U.S.A., * * * serves to predict mostly conservative values for down- and cross-wind concentrations."

Concerns have been raised by interested individuals about the dispersion modeling techniques used to make these calculations. In written comments to the U.S. House of Representatives' Committee on Government Operations, Dr. Ronald Koopman of the Lawrence Livermore National Laboratory states that the source and dispersion models used by DOT "* * * either overpredicts the hazard zones for some materials or underpredicts hazard distances for some other materials."

Dr. Koopman concluded:

> * * * if there were an accidental release, there would be the problem of industrial or emergency response personnel believing that an evacuation distance highly conservative when in fact people evacuated to that distance could be exposed to lethal concentrations.

The Committee on Government Operations recommended that "At the very minimum, DOT should consider presenting a range of estimates based on analyses from different appropriate models. This range of estimates would further indicate the uncertainty of DOT's recommended evacuation distances," and that "DOT should more carefully explain the uncertainties associated with the evacuation distances used in its ERG, especially its reliance upon the Gaussian model."

Protection of the Public by In-Place Sheltering

The 1987 ERG states that, "Evacuation is by itself, a process with significant risk for the persons being evacuated. Therefore, sheltering-in-place should always be a first consideration * * *". The Federal Emergency Management Agency (FEMA) and EPA sponsored a

conference in November 1988 concerning sheltering-in-place as a strategy for public protection during hazardous materials incidents. Statements by researchers and field practitioners indicated that additional guidance on sheltering-in-place should be included in the ERG.

Distribution of the ERG

RSPA used a network of State agencies to distribute over 1,000,000 copies of the 1987 ERG to various emergency services organizations. Additionally, RSPA routinely directs other (non-emergency response) requests for copies of the 1987 ERG to known commercial suppliers. Informal comments received by RSPA have indicated that certain jurisdictions have experienced difficulty in receiving copies of the 1987 ERG or that some jurisdictions or agencies may have restricted distribution of the 1987 ERG among their emergency services agencies.

Request for Comments

Comments are solicited on the preceding discussion of concerns and on the following questions. Supporting data and analyses will enhance the value of comments submitted.

1. Has CHEMTREC provided accurate and timely assistance to emergency responders during hazardous materials incidents?

2. Has the NRC provided accurate and timely assistance to emergency responders during hazardous materials incidents?

3. Should the ERG continue to list the CHEMTREC telephone number as the contact for information for emergency responders or should the NRC telephone number be listed instead of or in addition to the CHEMTREC telephone number?

4. Have emergency responders experienced a problem of inconsistent guidance between the ERC and other sources of technical information? If so, is the ERG at fault and in what way could the ERG be revised to reduce this inconsistency?

5. Have emergency responders experienced confusion or difficulty in understanding the scope or purpose of the ERG? If so, in what way could the ERG be revised to reduce this difficulty?

6. Have emergency responders experienced confusion or difficulty in understanding the application of the ERG? If so, in what way could the ERG be revised to reduce this difficulty?

7. What revisions should be made to the ERG's Table for Initial Isolation/Evacuation Distances for Selected Hazardous Materials, or to the assumptions which drive the calculation of its recommended distances?

8. What guidelines for sheltering-in-place should be considered for inclusion in the ERG?

9. Have emergency responders experienced difficulty understanding the capabilities of chemical protective clothing, and the limitations of structural firefighter's protective clothing in hazardous materials incidents? If so, in what way can the ERG be revised to improve understanding?

10. Has any identification number (ID No.) been incorrectly assigned to a material (Name or Material)?

11. Has any identification number/material been assigned to the "wrong" guide page?

12. Are the responses on each guide page appropriate for the material assigned to the guide page?

13. Should all DOT placards be displayed in the Table of Placards (e.g. Chlorine, Oxygen)?

14. Should the United Nations Class or Division number be displayed at the bottom of each placard in the Table of Placards?

15. Have emergency responders experienced difficulty with legibility of the ERG's print style, its format or its durability?

16. Have emergency response agencies experienced difficulty in obtaining copies of the ERG for their vehicles?

Issued in Washington, DC on January 24, 1989 under authority delegated in 49 CFR Part 106, Appendix A.

Alan I. Roberts,

Director, Office of Hazardous Materials Transportation.

[FR Doc. 89-2074 Filed 1-27-89; 8:45 am]

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Federal Register

Monday
January 30, 1989

Part VI

Department of Education

34 CFR Parts 245, 246, and 247
Women's Educational Equity Act Program; Notice of Proposed Rulemaking

DEPARTMENT OF EDUCATION

34 CFR Parts 245, 246, and 247

Women's Educational Equity Act Program

AGENCY: Department of Education.

ACTION: Notice of proposed rulemaking.

SUMMARY: The Secretary proposes to amend the regulations for the Women's Educational Equity Act (WEEA) Program. These proposed regulations implement the changes mandated by statutory amendments, include new regulations for projects of local significance, and effect other revisions based on a thorough review of the current regulations for the purpose of deregulation. These proposed regulations will not affect fiscal year 1989 awards, but will govern WEEA projects beginning in fiscal year 1990.

DATE: Comments must be received on or before March 16, 1989.

ADDRESSES: All comments concerning these proposed regulations should be addressed to M. Patricia Goins, Office of Elementary and Secondary Education, U.S. Department of Education, 400 Maryland Avenue, SW., Washington, DC 20202-6245.

A copy of any comments that concern information collection requirements should also be sent of the Office of Management and Budget at the address listed in the Paperwork Reduction Act Section of this preamble.

FOR FURTHER INFORMATION CONTACT: Mrs. Alice T. Ford, Women's Educational Equity Act Program, 400 Maryland Avenue, SW. (Room 2053, FOB-6), Washington, DC 20202-6439. (202) 732-4351.

SUPPLEMENTARY INFORMATION: The purpose of the Women's Educational Equity Act (WEEA) Program is to: (1) Provide equity for women—including girls—at all levels of education, (2) financially assist educational agencies and institutions in meeting all requirements of Title IX of the Education Amendments of 1972 (relating to nondiscrimination on the basis of sex in federally assisted educational programs), and (3) promote educational equity for women who suffer multiple discrimination, bias or stereotyping based on sex and race, ethnic origin, disability, or age. Funds are provided through grants and contracts for projects of national, statewide, or general significance (referred to in this preamble as projects of general significance) that could be disseminated widely and replicated in a variety of settings. Projects of general significance include challenge grants, not to exceed $40,000 each, for projects to develop new dissemination and replication strategies and innovative approaches to achieving the purposes of the WEEA.

Funds may also be provided for projects of local significance, if the appropriation for the WEEA Program exceeds a statutorily specified amount. In that case, the Secretary has the option of using the excess funds for projects of general significance, projects of local significance, or both.

The WEEA Program has been reauthorized and amended by the Augustus F. Hawkins-Robert T. Stafford Elementary and Secondary School Improvement Amendments of 1988—Pub. L. 100-297. The amendments lower to $4.5 million the appropriation threshold for funding projects of local significance and include, in selecting recipients for funding, a priority for applications from applicants that have not been previously funded.

General Changes in These Proposed Regulations

- The proposed regulations would redesignate and revise the exiting regulations and divide them into three separate parts of Title 34 of the Code of Federal Regulations (CFR). General requirements applicable both to projects of general significance and to projects of local significance would be contained in Part 245. Part 246 would contain additional provisions applicable only to projects of general significance, and Part 247 would contain additional provisions applicable only to projects of local significance.
- The proposed regulations implement new requirements of the Hawkins-Stafford Amendments of 1988—Pub. L. 100-297.
- The proposed regulations would delete unnecessary or unduly burdensome requirements from the current regulations, clarify the provisions of the regulations, and remove duplicative requirements—such as those that duplicate EDGAR.
- The proposed regulations would revise priorities the Secretary may establish for funding in any given year.

Specific Changes in These Proposed Regulations

The specific changes incorporated into this notice of proposed rulemaking (NPRM) include the following:

- The proposed regulations would eliminate provisions detailing the amounts of stipends. These amounts are not specified in the Act. Their elimination would allow applicants more flexibility in proposing rates for stipends that the Secretary would then examine on a case-by-case basis under provisions of EDGAR.
- The proposed regulations would delete the ranking process used by the Secretary in evaluating applications. The process is already covered by EDGAR (34 CFR 75.217(c)).
- The proposed regulations revise the additional factors in § 745.28(b) of the current regulations that are used in making award decisions. The proposed regulations include only those factors that the statute requires be considered in selecting applications for funding—i.e., geographic distribution and special consideration for applications from applicants that have not previously received assistance under this program.
- The proposed regulations make the cost principles referenced in 34 CFR 74.174 (relating to nonprofit organizations) applicable to awards to individuals, except that individuals may not use an indirect cost rate to charge overhead.
- The proposed regulations would replace the priorities in §§ 745.24 through 745.27 of the current regulations regarding projects of general significance with priorities for projects that address several issues and perceived needs currently affecting women's achievement of educational equity. Each year the Secretary could specify one or more of the following as priorities for projects of general significance:

—Projects to develop and test model programs and materials concerning Title IX compliance.
—Projects to increase the interest and participation of women in instructional courses in mathematics, science, and computer science.
—Projects to reduce the rate at which women drop out of educational institutions and to encourage women to resume their education.
—Projects to expand guidance and counseling programs to enable women to become more aware of and knowledgeable about careers in which women have not significantly participated.
—Projects to enhance opportunities for educational achievement by economically disadvantaged women.
—Projects to enhance opportunities for women who suffer multiple discrimination based on sex and race, ethnic origin, age, or disability.

- The proposed regulations incorporate the new statutory requirement that the Secretary, in selecting award recipients, give special consideration to applications from applicants that have not previously

received WEEA funds. Ten additional points would be awarded to these applications.

• Although the criteria the Secretary uses to evaluate applications for projects of general significance would remain essentially the same as in the current regulations, the proposed regulations make the following changes:

—The criterion for plan of operation would emphasize the soundness of the management plan of a proposed project.

—In the criterion under which the Secretary determines the quality of the director and staff of a proposed project, the Secretary would delete, as unnecessary, many of the specific subfactors in the current regulations.

• The proposed regulations add provisions for projects of local significance. Proposed new Part 247, together with the general provisions in proposed Part 245, would contain those regulatory provisions the Secretary regards as necessary to govern these types of projects, including the priorities from which the Secretary may select projects of local significance and the criteria used to evaluate applications for these projects. Also included would be a provision implementing the statutory requirement that in any year funds become available for projects of local significance, the Secretary allocates at least 75 percent of the funds to LEAs.

Significant Aspects of These Proposed Regulations

In proposing these regulations, the Secretary wishes to draw the attention of readers to several matters:

Projects of Local Significance. The Act does not automatically authorize awards each year for projects of local significance. Rather, the Act specifies that the Secretary may make these types of awards if the appropriation for the overall program in any given year exceeds $4.5 million. Even if that threshold amount is met, the Secretary has the discretion under the law to determine how much, if any, of an appropriation above $4.5 million will be awarded for projects of local significance.

Provisions of the Statute. The Secretary does not find it necessary to repeat in these proposed regulations every provision of the statute authorizing the program. Nonetheless, statutory requirements not repeated are in effect, and the Secretary urges users of the regulations to familiarize themselves with all applicable requirements.

Girls, Women, and Adult Women. Unless the Act specifies that a requirement or activity applies only to "adult women" (defined in proposed § 245.11(b)(5)(ii)), the term "women" in these proposed regulations is intended to include girls.

Open Meeting Requirement. The proposed regulations require that a local educational agency hold an open meeting regarding the contents of its application, and certify in its application that the meeting was held. These requirements were previously contained in the Education Department General Administrative Regulations (EDGAR) and added to the WEEA regulations in 1987 through a notice in the **Federal Register** (*See* 52 FR 27805).

Executive Order 12291

These proposed regulations have been reviewed in accordance with Executive Order 12291. They are not classified as major because they do not meet the criteria for major regulations established in the Executive Order.

Executive Order 12606

These regulations will have a positive impact on the family and are consistent with the requirements of Executive Order 12606—The Family. These regulations strengthen the authority and participation of parents in the education of their children. For example, the regulations specifically require that a local educational agency hold an open meeting regarding the contents of its application to give parents and the public in general an opportunity to testify or otherwise comment on the contents.

Regulatory Flexibility Act Certification

The Secretary certifies that these proposed regulations will not have significant economic impact on a substantial number of small entities. This program provides assistance to local educational agencies, State agencies, public or nonprofit agencies, organization, or institutions, and individuals.

These proposed regulations describe the program and establish minimal application requirements. They will not have a significant economic impact on small entities participating in the program.

Paperwork Reduction Act 1980

Sections 246.31 through 246.36 and 247.31 through 247.37 contain information collection requirements. As required by the Paperwork Reduction Act of 1980, the Department of Education will submit a copy of this section to the Office of Management and Budget (OMB) for review.

(44 U.S.C. 3504(h))

Organizations and individuals desiring to submit comments on the information collection requirements should direct them to the Office of Information and Regulatory Affairs, Room 3002, New Executive Office Building, Washington, DC 20503; Attention: James F. Houser.

Intergovernmental Review

This program is subject to the requirements of Executive Order 12372 and the regulations in 34 CFR Part 79. The objective of the Executive Order is to foster an intergovernmental partnership and a strengthened federalism by relying on processes developed by State and local governments for coordination and review of proposed Federal financial assistance.

In accordance with the order, this document is intended to provide early notification of the Department's specific plans and actions for this program.

Invitation To Comment

Interested persons are invited to submit comments and recommendations regarding these proposed regulations.

All comments submitted in response to these proposed regulations will be available for public inspection, during and after the comment period, in Room 2053, FOB–6, 400 Maryland Avenue SW., Washington, DC, between the hours of 8:30 a.m. and 4:00 p.m., Monday through Friday of each week except Federal holidays.

To assist the Department in complying with the specific requirements of Executive Order 12291 and the Paperwork Reduction Act of 1980 and their overall requirement of reducing regulatory burden, the Secretary invites comment on whether there may be further opportunities to reduce any regulatory burdens found in these proposed regulations.

Assessment of Educational Impact

The Secretary particularly requests comments on whether the proposed regulations in this document would require transmission of information that is being gathered by or is available from any other agency or authority of the United States.

List of Subjects in 34 CFR Parts 245, 246, and 247

Education, Government contracts, Grant programs—education, Reporting and recordkeeping requirements, Sex discrimination.

Dated: January 24, 1989.

Lauro F. Cavazos,

Secretary of Education.

(Catalog of Federal Domestic Assistance Number 84.083, Women's Educational Equity Act Program)

The Secretary proposes to amend Title 34 of the Code of Federal Regulations by redesignating Part 745 as Part 245, revising redesignated Part 245, and adding new Parts 246 and 247 to read as follows:

PART 245—WOMEN'S EDUCATIONAL EQUITY ACT PROGRAM—GENERAL PROVISIONS

Subpart A—General

Sec.

245.1 What is the Women's Educational Equity Act Program?
245.2 Who is eligible for an award?
245.3 Are men and boys eligible to participate in projects and activities?
245.4 What regulations apply?
245.5 What definitions apply?

Subpart B—What Kinds of Projects and Activities May the Secretary Fund?

245.10 What kinds of projects may the Secretary fund?
245.11 What kinds of activities may the Secretary fund?
245.12 How does the Secretary establish priorities?

Subpart C—How Does One Apply for an Award?

245.20 How must a local educational agency satisfy the requirement for an open meeting certification?
245.21 What assurance must an application include?

Subpart D—What Conditions Must be Met by a Recipient?

245.40 What costs are allowed?
245.41 What cost principles apply to individuals?

Authority: 20 U.S.C. 3041–3045, unless otherwise noted.

Subpart A—General

§ 245.1 What is the Women's Educational Equity Act Program?

(a) The Women's Educational Equity Act Program provides funds for projects designed to do one or more of the following:

(1) Promote educational equity for women in the United States.

(2) Promote educational equity for women who suffer multiple discrimination, bias, or stereotyping based on—

(i) Sex; and

(ii) Race, ethnic origin, disability, or age.

(3) Enable educational agencies and institutions to meet the requirements of Title IX of the Education Amendments of 1972 (relating to nondiscrimination on the basis of sex in federally assisted educational programs).

(b) Unless otherwise specified, as used in this part—and in 34 CFR Parts 246 and 247—the term "women" includes girls.

(c) The Secretary may provide funds under this program in the form of a grant or contract.

(Authority: 20 U.S.C. 3041(b), 3042(a))

§ 245.2 Who is eligible for an award?

The following are eligible to receive awards under the Women's Educational Equity Act Program:

(a) Public agencies, institutions, and organizations.

(b) Nonprofit private agencies, institutions, and organizations, including student and community groups.

(c) Individuals.

(Authority: 20 U.S.C. 3042(a))

§ 245.3 Are men and boys eligible to participate in projects and activities?

Nothing in this part or in 34 CFR Parts 246 or 247 shall be construed as prohibiting men and boys from participating in any project or activity assisted under the Women's Educational Equity Act Program.

(Authority: 20 U.S.C. 3043(c))

§ 245.4 What regulations apply?

The following regulations apply to the Women's Educational Equity Act Program:

(a) The Education Department General Administrative Regulations (EDGAR) as follows:

(1) 34 CFR Part 74 (Administration of Grants to Institutions of Higher Education, Hospitals and Nonprofit Organizations), for grants to institutions of higher education, hospitals, and nonprofit organizations.

(2) 34 CFR Part 75 (Direct Grant Programs), Part 77 (Definitions that Apply to Department Regulations), Part 78 (Education Appeal Board), and Part 79 (Intergovernmental Review of Department of Education Programs and Activities).

(3) 34 CFR Part 80 (Uniform Administrative Requirements for Grants and Cooperative Agreements to State and local Governments) for grants to State and local governments, including Indian Tribal governments.

(b) The Federal Acquisition Regulation (FAR) in 48 CFR Chapter 1 and the Department of Education Acquisition Regulation (EDAR) in 48 CFR Chapter 34.

(c) The regulations in 34 CFR Parts 246 and 247, as appropriate.

(d) The regulations in this Part 245.

(Authority: 20 U.S.C. 3041–3045)

§ 245.5 What definitions apply?

(a) The following terms used in this part are defined in 34 CFR 77.1:

Applicant
Application
Award
Budget
Contract
EDGAR
Grant
Local educational agency
Nonprofit
Private
Project
Public
Secretary
State

(b) *Other definitions.* The following definitions also apply to this part:

"Act" means the Women's Educational Equity Act, as amended.

"Educational equity for women" means——

(1) Full and fair participation by women in educational programs and in American society generally; and

(2) The ability of women to choose freely—without limitation based on sex—among benefits and opportunities in educational institutions, programs, and curricula.

"Title IX" means Title IX of the Education Amendments of 1972 (Pub. L. 92–318).

(Authority: 20 U.S.C. 3041–3045)

Subpart B—What Kinds of Projects and Activities May the Secretary Fund?

§ 245.10 What kinds of projects may the Secretary fund?

(a) The Secretary provides Federal funds for projects of general significance (34 CFR Part 246).

(b) If funds appropriated for the Women's Educational Equity Act Program exceed an amount specified in section 4002(b) of the Act, the Secretary may also provide funds for projects of local significance (34 CFR Part 247).

(Authority: 20 U.S.C. 3042).

§ 245.11 What kinds of activities may the Secretary fund?

(a) The Secretary awards at least one grant or contract each fiscal year for the performance of each of the activities described in paragraph (c) of this section.

(b) The Secretary awards funds for demonstration, developmental, and dissemination activities designed to provide, advance, ensure, or achieve educational equity for women at all levels of education.

(c) Activities described in paragraph (b) of this section may include, but are not restricted to the following:

(1) Development—if materials are commercially unavailable—and evaluation of curricula, textbooks, and other educational materials.

(2) Model training programs for educational personnel.

(3) Research and development projects.

(4) Guidance and counseling activities, including the development of nondiscriminatory tests.

(5)(i) Educational activities to increase opportunities for women, including continuing educational activities and programs for underemployed and unemployed adult women.

(ii) As used in paragraph (c)(5)(i) of this section, "adult" refers to women who—

(A) Have attained the age of 16; and

(B) Are no longer in school.

(6) Expansion and improvement of educational programs and activities for women in vocational education, career education, physical education, and educational administration.

(Authority: 20 U.S.C. 3042(a))

§ 245.12 How does the Secretary establish priorities?

(a) Each year, in a notice published in the **Federal Register**, the Secretary establishes separate priorities for projects of general significance and projects of local significance. The Secretary selects one or more priorities for each category of projects, from among the following:

(1) The priorities in § 246.11.

(2) The priorities in § 247.11.

(b)(1) Applicants may submit applications under one or more selected priorities. Applicants must identify the priorities under which they wish to compete in their applications.

(2) Applications under a priority compete against other applications under that priority for funds allocated to the priority.

(c) (1) An applicant may propose a project that is not under a priority, but is within the scope of the authorized activities described in § 245.11. These applications compete for funds not allocated to any priority.

(2) If an applicant fails to identify a priority, the application competes with other applications that are not under a selected priority.

(d)(1) Each year the Secretary may select one or more of the priorities established for general grants to apply to small grants.

(2) In any year that the Secretary establishes priorities for small grants, the procedures in paragraphs (a) through (c) of this section apply.

(Authority: 20 U.S.C. 3045)

Subpart C—How Does One Apply for an Award?

§ 245.20 How must a local educational agency satisfy the requirement for an open meeting certification?

An applicant that is a local educational agency shall—

(a) Give reasonable notice of the general public's opportunity to testify or otherwise comment at an open meeting regarding the subject matter of the application;

(b) Hold the open meeting;

(c) Consider comments obtained at the meeting in developing the final application; and

(d) Certify in the application submitted to the Secretary that the LEA has held an open meeting regarding the application, as required by this section.

(Authority: 20 U.S.C. 3386)

§ 245.21 What assurance must an application include?

In addition to meeting the other requirements in this part, and as appropriate, Parts 246 and 247, an application must include an assurance that the applicant, if selected for an award, would administer or supervise the project or activity for which the applicant seeks Federal financial assistance under the program.

(Authority: 20 U.S.C. 3043(a))

Subpart D—What Conditions Must be Met by a Recipient?

§ 245.40 What costs are allowed?

In addition to the costs allowed in EDGAR, the Secretary allows project funds to be used for the following:

(a) The payment of stipends, travel costs, and child care to persons who participate in training under the project and to persons who participate in field-testing of materials and programs developed under the project if—

(1) Provision of these payments was included in the application;

(2) The applicant demonstrates to the Secretary's satisfaction that the payments are necessary to achieve the objectives of the project; and

(3) Participants who receive stipends are not otherwise paid for the time during which they participate in the training or testing.

(b) The costs of tuition and fees for participants in a training activity under the project if—

(1) Provision for these costs was included in the application; and

(2) The applicant demonstrates to the Secretary's satisfaction that payment of the costs is necessary to achieve the objectives of the project.

(Authority: 20 U.S.C. 3042(a))

§ 245.41 What cost principles apply to individuals?

The cost principles referenced in 34 CFR 74.174 (Cost Principles for other Nonprofit Organizations) apply to an individual who receives a grant under this program, except that an individual may not use an indirect cost rate.

(Authority: 20 U.S.C. 3042(a))

PART 246—WOMEN'S EDUCATIONAL EQUITY ACT PROGRAM—PROJECTS OF GENERAL SIGNIFICANCE

Subpart A—General

Sec.

246.1 What are projects of general significance under the Women's Educational Equity Act Program?
246.2 Who is eligible for an award?
246.3 What regulations apply?

Subpart B—What Kinds of Projects and Activities May the Secretary Fund?

246.10 What kinds of projects and activities may the Secretary fund?
246.11 What priorities may the Secretary select?

Subpart C—[Reserved]

Subpart D—How Does the Secretary Make an Award?

246.30 How does the Secretary evaluate an application?
246.31 Selection criterion: Need.
246.32 Selection criterion: Impact.
246.33 Selection criterion: Plan of operation.
246.34 Selection criterion: Qualifications of staff.
246.35 Selection criterion: Innovative approach.
246.36 What additional factors does the Secretary consider in selecting projects for funding?

Authority: 20 U.S.C. 3041–3045, unless otherwise noted.

Subpart A—General

§ 246.1 What are projects of general significance under the Women's Educational Equity Act Program?

Under the Women's Educational Equity Act Program—Projects of General Significance, the Secretary provides Federal funds to projects—

(a) That address one or more purposes of the Act;

(b) That are likely to—

(1) Have national or statewide significance; or

(2) Be of significance to women generally; and

(c) Whose potential impact is not confined to a local area.

(Authority: 20 U.S.C. 3042(a)(1))

§ 246.2 Who is eligible for an award?

(a) The types of entities listed in 34 CFR 245.2 are eligible to receive awards under the Women's Educational Equity Act Program—Projects of General Significance.

(b) In addition to the types of entities referred to in paragraph (a) of this section, a consortium of these entities is eligible to receive a challenge grant.

(Authority: 20 U.S.C. 3042(a))

§ 246.3 What regulations apply?

The following regulations apply to the Women's Educational Equity Act Program—Projects of General Significance:

(a) The regulations in 34 CFR Part 245.

(b) The regulations in this Part 246.

(Authority: 20 U.S.C. 3041–3045)

Subpart B—What Kinds of Projects and Activities May the Secretary Fund?

§ 246.10 What kinds of projects and activities may the Secretary fund?

Under the Women's Educational Equity Act Program—Projects of General Significance, the Secretary provides Federal funds for the following kinds of activities:

(a) *General grants or contracts.* The Secretary may provide assistance through a general grant or award a contract for one or more of the kinds of activities described or listed in 34 CFR 245.11.

(b) (1) *Challenge grants.* The Secretary may provide assistance through a challenge grant for projects designed to develop innovative approaches to achieving the purposes of the Act.

(2) These approaches may include, but are not restricted to the following:

(i) Comprehensive plans for implementation of equity programs at every educational level.

(ii) Innovative approaches to school-community partnerships.

(iii) New dissemination and replication strategies.

(Authority: 20 U.S.C. 3042, 3044)

§ 246.11 What priorities may the Secretary select?

In establishing priorities for funding each year according to 34 CFR 245.12, the Secretary may select one or more of the following:

(a) Projects to develop and test model programs and materials that could be used by local educational agencies and other entities in meeting the requirements of Title IX.

(b) Projects to develop new educational programs, training programs, counseling programs, or other programs, designed to increase the interest and participation of women in instructional courses in mathematics, science, and computer science.

(c) Projects to develop new educational programs, training programs, counseling programs, or other programs, or to expand existing model programs, designed to accomplish the following:

(1) Reduce the rate at which women drop out of formal education.

(2) Encourage women dropouts to resume their education.

(d) Projects to develop or expand guidance and counseling programs designed to increase the knowledge and awareness of women regarding opportunities in careers in which women have not significantly participated.

(e) Projects to develop new educational programs or expand existing model educational programs designed to enhance opportunities for educational achievement by economically disadvantaged women.

(f) Projects to develop new educational programs or expand existing model educational programs designed to enhance opportunities for educational achievement by women who suffer multiple discrimination on the basis of sex and race, ethnic origin, age, or disability.

(Authority: 20 U.S.C. 3045)

Subpart C—[Reserved]

Subpart D—How Does the Secretary Make an Award?

§ 246.30 How does the Secretary evaluate an application?

(a) (1) The Secretary evaluates an application on the basis of the criteria in §§ 246.31 through 246.34.

(2) The Secretary awards up to 100 points for these criteria.

(b) (1) In the case of an application for a challenge grant under 34 CFR Part 246, the Secretary also applies the criterion in 34 CFR 246.35.

(2) The Secretary awards up to five additional points for this criterion.

(c) The maximum possible score for each criterion is indicated in parentheses.

(Authority: 20 U.S.C. 3045)

§ 246.31 Selection criterion: Need. (20 points)

The Secretary determines the extent to which—

(a) The proposed project addresses a need or needs that—

(1) Are central to one or more of the purposes of the Act; (8 points) and

(2) Have magnitude and significance; (8 points) and

(b) The applicant has sufficient knowledge of other projects dealing with this need or these needs and demonstrates convincingly that the proposed project would not duplicate the other projects. (4 points)

(Authority: 20 U.S.C. 3045)

§ 246.32 Selection criterion: Impact. (24 points)

The Secretary determines the extent to which—

(a) The objectives of the proposed project are realistic; (8 points)

(b) The strategy and activities proposed to implement the project are likely to accomplish the project's objectives; (8 points) and

(c) The proposed project holds promise of making a substantial contribution toward attaining one or more of the purposes of the Act. (8 points)

(Authority: 20 U.S.C. 3043, 3045)

§ 246.33 Selection criterion: Plan of operation. (40 points)

The Secretary determines the extent to which—

(a) The management plan proposed by the applicant—

(1) Is likely to be effective for implementing the proposed project and achieving the project's objectives; (10 points)

(2) Provides for adequate and appropriate allocation of resources; (5 points) and

(3) Contains realistic schedules; (5 points)

(b) The budget proposed by the applicant is adequate and provides for costs that are reasonable in relation to the objectives of the project; (10 points) and

(c) The policies and procedures provided by the applicant for evaluating the proposed project are likely to ensure adequate evaluation including, if appropriate, an evaluation or estimate of the potential for continued significance following completion of the grant period. (10 points)

(Authority: 20 U.S.C. 3043, 3045)

§ 246.34 Selection criterion: Qualifications of staff. (16 points)

The Secretary determines the extent to which—

(a) The director of the proposed project has the qualifications and capability to conduct the project successfully; (5 points)

(b) The staff of the project has the qualifications and capability to

implement and operate the project successfully; (5 points)

(c) The time to be spent on the project by the director and staff is sufficient to carry out the project activities. (3 points) and

(d) The applicant, as part of its nondiscriminatory employment practices, will ensure that its personnel are selected for employment without regard to race, color, national origin, gender, age, or handicapping conditions. (3 points)

(Authority: 20 U.S.C. 3045)

§ 246.35 Selection criterion: Innovative approach. (5 points)

The Secretary determines the extent to which the proposed project uses a new or untried approach to achieving some aspect of educational equity for women.

(Authority: 20 U.S.C. 3044, 3045)

§ 246.36 What additional factors does the Secretary consider in selecting projects for funding?

(a) In addition to the criteria in §§ 246.31 through 246.34—and, if appropriate, the criterion in § 246.35—the Secretary, in selecting projects for funding gives special consideration to—

(1) Applications submitted by applicants that have not received assistance under this part or Part C of Title IX of the Elementary and Secondary Education Act of 1965, and

(2) Applications from applicants on the basis of geographical distribution.

(b) The Secretary awards ten additional points to each project that is eligible for consideration under paragraph (a)(1) of this section.

(Authority: 20 U.S.C. 3043(b); 3045)

PART 247—WOMEN'S EDUCATIONAL EQUITY ACT PROGRAM—PROJECTS OF LOCAL SIGNIFICANCE

Subpart A—General

Sec.

247.1 What are projects of local significance under the Women's Educational Equity Act Program?
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247.40 What portion of costs must a recipient contribute?

Authority: 20 U.S.C. 3041–3045, unless otherwise noted.

Subpart A—General

§ 247.1 What are projects of local significance under the Women's Educational Equity Act Program?

Under the Women's Educational Equity Act Program—Projects of Local Significance, the Secretary provides Federal funds to pay a portion of the costs of establishing and operating special programs and projects of local significance that provide equal opportunities for both sexes.

(Authority: 20 U.S.C. 3042(a)(2))

§ 247.2 Who is eligible for an award?

(a) The types of entities listed in 34 CFR 245.2 are eligible to receive awards under the Women's Educational Equity Act Program—Projects of Local Significance.

(b) Each year the Secretary allocates at least 75 percent of the funds available for these types of projects for awards to local educational agencies (LEAs).

(Authority: 20 U.S.C. 3042(a)(2))

§ 247.3 What regulations apply?

The following regulations apply to the Women's Educational Equity Act Program—Projects of Local Significance:

(a) The regulations in 34 CFR Part 245.

(b) The regulations in this Part 247.

(Authority: 20 U.S.C. 3041–3045)

Subpart B—What Kinds of Activities May the Secretary Fund?

§ 247.10 What kinds of activities may the Secretary fund?

Under the Women's Educational Equity Act Program—Projects of Local Significance, the Secretary provides Federal funds for the following kinds of activities:

(a) The kinds of activities described or listed in 34 CFR 245.11.

(b) Activities incident to achieving compliance with Title IX.

(c) Other special activities designed to achieve the purposes of the Act.

(Authority: 20 U.S.C. 3042(a)(2))

§ 247.11 What priorities may the Secretary select?

In establishing priorities for funding each year, according to 34 CFR 245.12, the Secretary may select one or more of the following:

(a) Projects to help LEAs and other educational agencies and institutions meet the requirements of Title IX of the Education Amendments of 1972.

(b) Projects to develop—if materials are commercially unavailable—and adapt to local needs, curricula, textbooks, and other educational materials that will promote educational equity.

(c) Projects to develop and implement training programs, counseling programs, or other programs designed to enhance the skills of women in mathematics, science, and computer science.

(d) Projects to develop and implement guidance and counseling programs designed to—

(1) Increase the knowledge and awareness of women regarding non-traditional career options and opportunities for women; and

(2) Provide informatiion on educational and other requirements for women entering those careers.

(Authority: 20 U.S.C. 3045)

Subpart C—[Reserved]

Subpart D—How Does the Secretary Make an Award?

§ 247.30 How does the Secretary evaluate an application?

(a) The Secretary evaluates an application for Federal financial assistance for a project of local significance on the basis of the criteria in §§ 247.31 through 247.37.

(b) The Secretary awards up to 100 points for these criteria.

(c) The maximum possible score for each criterion is indicated in parentheses.

(Authority: 20 U.S.C. 3045)

§ 247.31 Selection criterion: Need. (10 points)

The Secretary determines the extent to which—

(a) The proposed project addresses needs that are central to the purposes of the Act; (5 points) and

(b) The applicant documents that there are severe and significant needs to be addressed in the local community, agency, or institution to be served. (5 points) and

(Authority: 20 U.S.C. 3045)

§ 247.32 Selection criterion: Impact. (10 points)

The Secretary determines the extent to which—

(a) The project will help educational agencies or institutions meet the requirements of Title IX or otherwise provide educational equity in the local community, agency or institution to be served; (5 points)

(b) The project will increase the knowledge and commitment of administration, faculty, staff, students, parents, and the public to the needs and issues addressed by the project. (5 points)

(Authority: 20 U.S.C. 3045)l

§ 247.33 Selection criterion: Plan of operation. (32 points)

The Secretary determines the extent to which—

(a) The project's objectives are clear and related to the needs identified in the application; (8 points)

(b) The applicant's strategies and activities are feasible and are likely to address the identified needs successfully; (8 points)

(c) The applicant has an effective management plan that ensures proper management and administration of the project, including realistic schedules and adequate allocation of resources and personnel to achieve each objective; (8 points) and

(d) The applicant demonstrates how it will provide equal access and treatment for eligible project participants who are members of groups that suffer multiple discrimination, bias, or stereotyping based on sex and race, ethnic origin, age, or disability. (8 points)

(Authority: 20 U.S.C. 3045)

§ 247.34 Selection criterion: Qualifications of Staff. (20 points)

The Secretary determines the extent to which—

(a) The project director and staff have the qualifications and the capability to conduct the project successfully; (10 points)

(b) The time to be spent on the project by the director and staff is sufficient to carry out project activities; (5 points) and

(c) The applicant, as part of its nondiscriminatory employment practices, will ensure that its personnel are selected for employment without regard to race, color, national origin, gender, age, or handicapping conditions. (5 points)

(Authority: 20 U.S.C. 3045)

§ 247.35 Selection criterion: Cooperation and commitment. (12 points)

The Secretary determines the extent to which—

(a) There is involvement and cooperation in the planning and implementation of the project by appropriate community groups, such as parent-teacher groups, that could contribute to the project's success; (3 points)

(b) There is support for the project and commitment to the success of the project by the top administration of the applicant; (3 points)

(c) The project's activities and management of those activities will be centrally placed in the agency or institution and will be an integral part of the agency's or institution's ongoing activities; (3 points) and

(d) The applicant plans to incorporate the proposed project into the permanent policies and practices of the agency or institution following completion of the grant period. (3 points)

(Authority: 20 U.S.C. 3045)

§ 247.36 Selection criterion: Budget and cost effectiveness. (8 points)

The Secretary determines the extent to which the budget for the project is adequate to support the project activities. (8 points)

(Authority: 20 U.S.C. 3045)

§ 247.37 Selection criterion: Evaluation. (8 points)

The Secretary determines the extent to which—

(a) The policies and procedures provided by the applicant for evaluating the proposed project are likely to ensure adequate evaluation including, if appropriate, an evaluation or estimate of the potential for continued significance following completion of the grant period (4 points) and

(b) The methods of evaluation, to the extent possible, are objective and produce data that are quantifiable. (4 points)

(Authority: 20 U.S.C. 3043, 3045)

§ 247.38 What is the maximum period of an award?

A project of local significant may receive Federal funds for a period that does not exceed two years.

(Authority: 20 U.S.C. 3042(a)(2))

Subpart E—What Conditions Must be Met by a Recipient?

§ 247.40 What portion of costs must a recipient contribute?

(a) If selected for funding under the Women's Educational Equity Act Program—Projects of Local Significance, an LEA shall contribute the following share of approved costs:

(1) In the first year of the project, 20 percent.

(2) In the second year of the project, if applicable, 40 percent.

(b) If selected for funding under the Women's Educational Equity Act Program—Projects of Local Significance, an entity other than an LEA shall contribute the following share of approved costs:

(1) In the first year of the project, 10 percent.

(2) In the second year of the project, if applicable, 20 percent.

(Authority: 20 U.S.C. 3042(a)(2)).

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[2] No amendments to this volume were promulgated during the period Jan. 1, 1987 to Dec. 31, 1987. The CFR volume issued January 1, 1987, should be retained.

[3] No amendments to this volume were promulgated during the period Apr. 1, 1980 to March 31, 1988. The CFR volume issued as of Apr. 1, 1980, should be retained.

[4] The July 1, 1985 edition of 32 CFR Parts 1–189 contains a note only for Parts 1–39 inclusive. For the full text of the Defense Acquisition Regulations in Parts 1–39, consult the three CFR volumes issued as of July 1, 1984, containing those parts.

[5] No amendments to this volume were promulgated during the period July 1, 1986 to June 30, 1988. The CFR volume issued as of July 1, 1986, should be retained.

[6] The July 1, 1985 edition of 41 CFR Chapters 1–100 contains a note only for Chapters 1 to 49 inclusive. For the full text of procurement regulations in Chapters 1 to 49, consult the eleven CFR volumes issued as of July 1, 1984 containing those chapters.