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May 6, 1987

Briefings on How To Use the Federal Register—
For information on briefings in Washington, DC, see announcement on the inside cover of this issue.

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THE FEDERAL REGISTER
WHAT IT IS AND HOW TO USE IT

FOR: Any person who uses the Federal Register and Code of Federal Regulations.

WHO: The Office of the Federal Register.

WHAT: Free public briefings (approximately 2 1/2 hours) to present:

1. The regulatory process, with a focus on the Federal Register system and the public's role in the development of regulations.
2. The relationship between the Federal Register and Code of Federal Regulations.
3. The important elements of typical Federal Register documents.
4. An introduction to the finding aids of the FR/CFR system.

WHY: To provide the public with access to information necessary to research Federal agency regulations which directly affect them. There will be no discussion of specific agency regulations.

WASHINGTON, DC

WHEN: June 9, at 9 a.m.
WHERE: Office of the Federal Register, First Floor Conference Room, 1100 L Street NW., Washington, DC.
RESERVATIONS: Gertrude E. Belton, 202–523–5237

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Presidential Documents

Title 3—

The President

Proclamation 5646 of May 4, 1987

To Modify Duty-Free Treatment Under the Generalized System of Preferences, the Caribbean Basin Economic Recovery Act, and the United States-Israel Free Trade Implementation Act, To Enable the Monitoring of Textile Agreements and for Other Purposes

By the President of the United States of America

A Proclamation

1. On July 31, 1986, under the authority of section 204 of the Agricultural Act of 1956 (7 U.S.C. 1854), the United States accepted the Protocol Extending the Arrangement Regarding International Trade in Textiles. The Protocol expands the product coverage of the Arrangement to include certain vegetable fiber and silk-blend textiles and textile products that previously had not been under the Arrangement. The United States also concluded a bilateral agreement, the Agreement Relating to Trade in Cotton, Wool, Man-made Fibers, Silk-blend and Other Vegetable Fiber Textile and Textile Products, with Hong Kong. Effective August 1, 1986, the Agreement extended the coverage of an earlier bilateral agreement with Hong Kong to include certain vegetable fiber and silk-blend textiles and textile products.

2. Section 503(c)(1) of the Trade Act of 1974, as amended (the Trade Act) (19 U.S.C. 2463(c)(1)), provides that textile and apparel articles "subject to textile agreements" are not eligible for tariff preferences under the Generalized System of Preferences (GSP). Therefore, I have determined that certain vegetable fiber and silk-blend textiles and textile products now subject to textile agreements should be removed from the list of articles eligible for GSP benefits. Annex I to this Proclamation modifies the Tariff Schedules of the United States (TSUS) (19 U.S.C. 1202) to implement this change in tariff treatment for articles covered by the listed TSUS item numbers. Furthermore, TSUS items 372.60 and 372.65 now contain certain articles that are subject, and other articles that are not subject, to textile agreements. Accordingly, as indicated in Annex II to this Proclamation, I am acting to modify the TSUS to remove from eligibility under the GSP those articles that have become subject to textile agreements, and to make certain conforming changes in the TSUS.

3. I have determined that the TSUS incorrectly indicates duty-free treatment for articles eligible for entry under certain items in schedule 8 of the TSUS that are otherwise subject to duty under the Agreement on the Establishment of a Free Trade Area Between the Government of the United States of America and the Government of Israel (the Israel Agreement) and under the Caribbean Basin Economic Recovery Act (CBERA) (19 U.S.C. 2701). Therefore, I am acting as indicated in Annex III to this Proclamation to delete the Israel and CBERA duty-free designations in the Rates of Duty Special column corresponding to these items.

4. I have determined that general headnote 3(e)(vii) of the TSUS should be modified as indicated in Annex IV to this Proclamation in order to reflect section 235 of the Trade and Tariff Act of 1984, amending section 213(a) of the CBERA. In addition, I have determined that general headnote 3(e)(vii) should be further modified to correct certain clerical errors in that headnote and to

include language that conforms more closely with the underlying text of section 213(b) of the CBERA.

5. I have determined, on the basis of Customs classification practice and after taking into account new statistical information, that certain modifications are necessary in the TSUS to reflect properly the eligibility for GSP benefits of certain articles from certain beneficiary developing countries. Accordingly, I am acting to modify the TSUS as indicated in Annex V to this Proclamation.

6. In Proclamation 5452 of March 31, 1986, I removed from the list of articles eligible for benefits of the GSP certain mixtures containing ethanol. Through technical error, certain conforming changes and the staged reductions in duty for certain chemicals the product of Israel were omitted. Accordingly, I have determined it is appropriate to modify two chemical items in the Appendix to the TSUS to ensure that appropriate duty treatment for such chemicals is continued. I have further determined that it is necessary to provide for the continuation of scheduled staged reductions in duty for the chemicals that are the product of Israel under the Israel Agreement. Accordingly, I am modifying the TSUS as indicated in Annex VI to this Proclamation.

7. Section 4(b) of the United States-Israel Free Trade Area Implementation Act of 1985 (19 U.S.C. 2112 note) authorizes the President to proclaim the modification of any duty that I determine is required or appropriate to carry out the Israel Agreement in order to "maintain the general level or reciprocal and mutually advantageous concessions with respect to Israel." I have determined that, due to an inadvertence of both parties to the Israel Agreement, the contemplated duty reduction has not been properly implemented with respect to ornamented, knit, swimming suits and other swimwear of man-made fibers, for women, girls, or infants, provided for in TSUS item 384.19. Accordingly, I have determined that the TSUS should be modified to correct this inadvertence and to make certain conforming changes in the TSUS as indicated in Annex VII to this Proclamation.

8. In order to provide for the continuation of duty-free treatment for certain Canadian automotive products that are currently eligible for such treatment under the Automotive Products Trade Act of 1965 (19 U.S.C. 2001 *et seq.*), consistent with the changes to the TSUS that resulted from the enactment of the Trade and Tariff Act of 1984, I have determined it is necessary to modify the article description of TSUS item 685.55, as indicated in Annex VIII to this Proclamation.

9. I have determined it is necessary to modify the TSUS as indicated in Annex IX to this Proclamation in order to correct clerical errors in the designation of a beneficiary country for purposes of the GSP and the CBERA.

10. I have determined it is necessary to modify two items in the Appendix to the TSUS as indicated in Annex X to this Proclamation to ensure that appropriate duty treatment is accorded these items in the Rates of Duty Special column.

11. I have determined it is necessary to modify the TSUS as indicated in Annex XI to this Proclamation in order to correct an error in Proclamation 5291 of December 28, 1984.

12. Section 604 of the Trade Act confers authority upon the President to embody in the TSUS the substance of the relevant provisions of that Act, of other acts affecting import treatment, and of actions taken thereunder.

NOW, THEREFORE, I, RONALD REAGAN, President of the United States of America, acting under the authority vested in me by the Constitution and the statutes of the United States, including but not limited to section 204 of the Agricultural Act of 1956, the Automotive Products Trade Act of 1965, Title V and section 604 of the Trade Act of 1974, sections 211, 213, and 218 of the Caribbean Basin Economic Recovery Act, and sections 4 and 8(b)(2) of the United States-Israel Free Trade Area Implementation Act of 1985, do proclaim that:

(1) The TSUS are modified as set forth in the Annexes to this Proclamation.

(2) The modifications to the TSUS made by the Annexes to this Proclamation are effective on the dates set forth in the Annexes, except that the modifications made by section A of Annex II to this Proclamation with respect to articles eligible for benefits of the GSP is effective with respect to articles both: (i) imported on or after January 1, 1976, and (ii) entered, or withdrawn from warehouse for consumption, on or after August 1, 1986.

(3) Prior proclamations and Executive orders are superseded to the extent inconsistent with this Proclamation.

IN WITNESS WHEREOF, I have hereunto set my hand this 4th day of May, in the year of our Lord nineteen hundred and eighty-seven, and of the Independence of the United States of America the two hundred and eleventh.

Ronald Reagan

Billing code 3195-01-M

ANNEX I

The TSUS are modified as follows:

(a) Effective with respect to articles both: (i) imported on or after January 1, 1976, and (ii) entered, or withdrawn from warehouse for consumption, on or after August 1, 1986.

For the following items, the symbol "A" in parentheses following the rate of duty "Free" is deleted from the Rates of Duty Special column:

308.80	365.84	702.95
308.90	365.91	704.75
355.04	366.84	704.80
355.20	370.17	706.37
355.42	370.19	
355.55	702.08	
356.40	702.14	
363.02	702.85	
365.29	702.90	

(b) Effective with respect to articles both: (i) imported on or after January 1, 1976, and (ii) entered, or withdrawn from warehouse for consumption, on or after August 1, 1986, and before the close of December 31, 1986.

For the following items, the symbol "A" in parentheses following the rate of duty "Free" is deleted from the Rates of Duty Special column:

703.80
703.85

ANNEX II

Notes:

1. Bracketed matter is included to assist in the understanding of ordered modifications.

2. The following items, with or without preceding superior descriptions, supersede matter now in the TSUS. The items and superior descriptions are set forth in columnar form, and material in such columns is inserted in the columns of the TSUS designated "Item", "Articles", "Rates of Duty 1", "Rates of Duty Special", and "Rates of Duty 2", respectively.

Subject to the above notes, the TSUS are modified as follows:

Section A. Effective as to articles entered, or withdrawn from warehouse for consumption, on or after August 1, 1986.

1. Headnote 9 of schedule 3 is deleted and the following substituted in lieu thereof:

"9. The term "subject to textile agreements", wherever it appears in this schedule or in schedule 7, refers to textiles and textile articles--

(a) in chief value of vegetable fibers, wool, man-made fibers, or silk, or blends thereof in which those fibers, in the aggregate, exceed in value each other single component thereof, provided, in the case of apparel in chief value of silk, the silk content is less than 70 percent by weight, and in the case of other articles in chief value of silk, the silk content is less than 85 percent by weight; or

(b) in which either the cotton content or the man-made fiber content equals or exceeds 50 percent by weight of all component fibers thereof; or

(c) in which the wool content exceeds 17 percent by weight of all component fibers thereof; or

(d) in which either the silk (except as provided for in (a) above) or the non-cotton vegetable fiber content equals or exceeds 50 percent by weight of all component fibers thereof; or

(e) containing blends of silk (except as provided for in (a) above), vegetable fibers, wool, or man-made fibers, which fibers, in the aggregate, amount to 50 percent or more by weight of all component fibers thereof."

ANNEX II (con.)

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Section A. (con.)

2. Items 372.60 and 372.65 are superseded and the following new items and superior headings are inserted in lieu thereof:

[Mufflers, . . .:]				
[Other . . .:]				
[Of silk:]				
[Not knit:]				
[Weighing . . .:]				
"Valued over $5 per dozen:				
372.61	Containing 70 percent or more by weight of silk.....	8% ad val.	Free (A, E) 5.6% ad val. (I)	60% ad val.
372.63	Other.....	8% ad val.	Free (E*) 5.6% ad val. (I)	60% ad val.
Other:				
372.66	Containing 70 percent or more by weight of silk.....	9.3% ad val.	Free (A, E) 6.5% ad val. (I)	65% ad val.
372.68	Other.....	9.3% ad val.	Free (E*) 6.5% ad val. (I)	65% ad val."

Section B. Effective with respect to articles entered, or withdrawn from warehouse for consumption, on or after January 1, 1987.

For each of the following items created by section A of this Annex the rate of duty in the Rates of Duty 1 column is deleted and the following rate of duty is inserted in lieu thereof:

372.61	6.9% ad val.
372.63	6.9% ad val.
372.66	8% ad val.
372.68	8% ad val.

Section C. Effective with respect to articles the product of Israel which are entered, or withdrawn from warehouse for consumption, on or after the dates set forth in the following tabulation.

For each of the following items created by section A of this Annex the rate of duty in the Rates of Duty Special column that is followed by the symbol "I" in parentheses is deleted and the following rate of duty is inserted on the date specified in lieu thereof followed by the symbol "I" in parentheses:

	January 1, 1987	January 1, 1988	January 1, 1989	January 1, 1990	January 1, 1992	January 1, 1995
372.61	4.1% ad val.	3.5% ad val.	2.8% ad val.	2.1% ad val.	0.7% ad val.	Free
372.63	4.1% ad val.	3.5% ad val.	2.8% ad val.	2.1% ad val.	0.7% ad val.	Free
372.66	4.8% ad val.	4% ad val.	3.2% ad val.	2.4% ad val.	0.8% ad val.	Free
372.68	4.8% ad val.	4% ad val.	3.2% ad val.	2.4% ad val.	0.8% ad val.	Free

ANNEX III

The TSUS are modified as follows:

Section A. Effective as to articles entered, or withdrawn from warehouse for consumption, on or after January 1, 1984, and on or before August 31, 1985.

General headnote 3(g)(iii) of the TSUS is modified by:
(a) in subdivision (F) deleting "apply; or" and inserting "apply;" in lieu thereof;
(b) redesignating subdivision (G) as subdivision (H); and
(c) inserting after subdivision (F) the following: "(G) the articles provided for in schedule 8 which are enumerated in subdivisions (A) through (F) above; or".

Section B. Effective with respect to articles entered, or withdrawn from warehouse for consumption, on or after September 1, 1985.

For each of the following items the rate of duty "Free" and the symbol "E" in parentheses is deleted from the Rates of Duty Special column:

804.10	806.30	869.10
804.20	807.00	870.50
806.20	869.00	870.55

For each of the following items the rate of duty "Free" and the symbol "I" in parentheses is deleted from the Rates of Duty Special column:

804.10	806.20	807.00
804.20	806.30	869.10

ANNEX IV

The TSUS are modified as follows:

Effective as to articles entered, or withdrawn from warehouse for consumption, on or after September 1, 1985.

General headnote 3(e)(vii) of the TSUS is modified by:
(a) adding at the end of subdivision (B) the following:
"(4) Notwithstanding section 311 of the Tariff Act of 1930 (19 U.S.C. 1311), the products of a beneficiary country which are imported directly from such country into Puerto Rico may be entered under bond for processing or manufacturing in Puerto Rico. No duty shall be imposed on the withdrawal from warehouse of the product of such processing or manufacturing if, at the time of such withdrawal, such product meets the requirements of subdivision (e)(vii)(B)(1)(ii) above.";
(b) in the first sentence of subdivision (C), deleting "are those designated" and inserting "are those proclaimed" in lieu thereof;
(c) in subdivision (D)(2), deleting "the CBERA; or" and inserting "the CBERA;" in lieu thereof;
(d) in subdivision (D)(3), deleting "of this headnote." and inserting "of this headnote; or" in lieu thereof; and
(e) adding at the end of subdivision (D)(3) the following:
"(4) footwear, handbags, luggage, flat goods, work gloves, and leather wearing apparel not designated, at the time of the effective date of the CBERA, as eligible articles for purposes of the GSP."

ANNEX V

The TSUS are modified as follows:

Section A. Effective with respect to articles both: (i) imported on or after January 1, 1976, and (ii) entered, or withdrawn from warehouse for consumption, on or after March 30, 1984 and on or before August 31, 1985.

1. For item 406.12 the designation "A" is inserted in the column entitled "GSP" in the TSUS for such item.

2. For item 406.37 the article description is modified by deleting therefrom the chemical "1,2-Dihydro-2,2,4-trimethylquinoline polymer;".

Section B. Effective with respect to articles both: (i) imported on or after January 1, 1976, and (ii) entered, or withdrawn from warehouse for consumption, on or after September 1, 1985.

For item 406.12 a rate of duty of "Free" followed by the symbol "A" in parentheses is inserted in the Rates of Duty Special column.

Section C. Effective with respect to articles both: (i) imported on or after January 1, 1976, and (ii) entered, or withdrawn from warehouse for consumption, on or after July 1, 1986.

1. General headnote 3(e)(v)(D) to the TSUS is modified by:

   (a) deleting therefrom "688.30....Costa Rica" and inserting in lieu thereof "688.30....Republic of Korea"; and
   (b) by deleting therefrom "470.85....Mexico"; and

2. For item 470.85 the rate of duty "Free" followed by the symbol "A*" in parentheses in the Rates of Duty Special column is modified by deleting the symbol "A*" and by inserting the symbol "A" in lieu thereof.

ANNEX VI

The TSUS are modified as follows:

Section A. Effective as to articles entered, or withdrawn from warehouse for consumption, on or after March 31, 1986.

Part 1B of the Appendix to the TSUS is modified by:
(a) deleting from the article description of item 906.52 the item number "432.25" and inserting "432.28" in lieu thereof; and
(b) deleting from the article description of item 907.13 the phrase "item 407.16" and inserting "items 407.17 and 407.19" in lieu thereof.

Section B. Effective as to articles the product of Israel which entered, or withdrawn from warehouse for consumption, on or after January 1, 1989.

For each of the items 407.11, 407.13, 407.17, 407.19, 413.52, 413.54, 432.26, and 432.28 the rate of duty in the Rates of Duty Special column that is followed by the symbol "I" in parentheses is deleted and the rate of duty "Free" is inserted in lieu thereof followed by the symbol "I" in parentheses.

ANNEX VII

Notes:

1. Bracketed matter is included to assist in the understanding of ordered modifications.

2. The following items, with or without preceding superior descriptions, supersede matter now in the TSUS. The items and superior descriptions are set forth in columnar form, and material in such columns is inserted in the columns of the TSUS designated "Item", "Articles", "Rates of Duty 1", "Rates of Duty Special", and "Rates of Duty 2", respectively.

Subject to the above notes, the TSUS are modified as follows:

Section A. Effective as to articles entered, or withdrawn from warehouse for consumption, on or after September 1, 1985.

1. Subpart F of part 6 of schedule 3 of the TSUS is modified by inserting in numerical sequence the following new item and rates of duty:

	[Women's, . . .:]			
	[Of man-made fibers:]			
	[Knit:]			
"384.17	Swimming suits and other swimwear.....	34.2% ad val.	Free (I)	90% ad val."

2. Conforming change: Delete from the article description for item 384.19 the phrase "swimming suits and other swimwear;".

Section B. Effective as to articles entered, or withdrawn from warehouse for consumption, on or after the dates set forth in the following tabulation.

For item 384.17 created by section A of this Annex the rate of duty in the Rates of Duty 1 column is stricken and the following rate of duty is inserted in lieu thereof on the date specified:

January 1, 1986	January 1, 1987
32.1% ad val.	30% ad val.

ANNEX VIII

The TSUS are modified as follows:

Effective as to articles entered, or withdrawn from warehouse for consumption, on or after January 1, 1985.

For item 685.55 the article description is modified by deleting therefrom the phrase "items 685.11 to 685.50," and inserting "items 684.92 to 685.49" in lieu thereof.

ANNEX IX

The TSUS are modified as follows:

Section A. Effective with respect to articles both: (i) imported on or after January 1, 1976, and (ii) entered, or withdrawn from warehouse for consumption, on or after March 1, 1987.

General headnote (e)(v)(A) to the TSUS is modified by:
(a) deleting, in the list of independent countries, "Aruba"; and
(b) inserting in alphabetical sequence, in the list of non-independent countries and territories, "Aruba".
(c) deleting, in the list of non-independent countries and territories, "Saint Christopher-Nevis";
(d) inserting in alphabetical sequence, in the list of independent countries, "Saint Christopher and Nevis"; and
(e) deleting, in the list of member countries of the Caribbean Common Market (CARICOM), "Saint Christopher-Nevis", and inserting in lieu thereof "Saint Christopher and Nevis".

Section B. Effective with respect to articles entered, or withdrawn from warehouse for consumption, on or after March 1, 1987.

General headnote 3(e)(vii)(A) is modified by deleting "Saint Christopher-Nevis" and inserting in lieu thereof "Saint Christopher and Nevis".

ANNEX X

The TSUS are modified as follows:

Section A. Effective with respect to articles both: (i) imported on or after January 1, 1976, and (ii) entered, or withdrawn from warehouse for consumption, on or after July 1, 1986.

For item 903.15 the rate of duty "No Change" followed by the symbol "A*" in parentheses in the Rates of Duty Special column is modified by deleting the symbol "A*" and by inserting the symbol "A" in lieu thereof.

Section B. Effective with respect to articles entered, or withdrawn from warehouse for consumption, on or after January 1, 1987.

For item 907.22 the rate of duty "No Change" followed by the symbol "D" in parentheses in the Rates of Duty Special column is modified by deleting the symbol "D".

ANNEX XI

The TSUS are modified as follows:

Effective with respect to articles entered, or withdrawn from warehouse for consumption, on or after April 29, 1985.

The superior heading to items 680.46 through 681.24 is modified by deleting "motor vehicles and bicycles" and inserting "motor vehicles, aircraft, and bicycles" in lieu thereof.

Presidential Documents

Proclamation 5647 of May 4, 1987

Asian/Pacific American Heritage Week, 1987

By the President of the United States of America

A Proclamation

Like all Americans, those of Asian and Pacific descent share twin heritages—the rich cultural legacy of the lands of their forebears and the liberty that is the birthright of every American. Drawing on the values and traditions of their homelands and the promise of this land of opportunity, Asian and Pacific Americans have long helped build and strengthen our Nation. They have also gallantly defended our country and our freedom in time of war.

Through the years, many of the indelible contributions by Asian and Pacific Americans to our land have come from immigrants. These quiet heroes and heroines have known oppression and poverty in their native lands and have courageously struggled to reach the United States and make a new life for themselves and their children. Their story is America's story, and their spirit is America's spirit.

Every American can be profoundly grateful for the achievements of Asian and Pacific Americans. Their hard work, creativity, and intelligence have inspired their fellow citizens and added new dimensions to our national life.

NOW, THEREFORE, I, RONALD REAGAN, President of the United States of America, by virtue of the authority vested in me by the Constitution and the laws of the United States, do hereby proclaim the week beginning May 3, 1987, as Asian/Pacific American Heritage Week. I call upon the people of the United States to observe this week with appropriate ceremonies and activities.

IN WITNESS WHEREOF, I have hereunto set my hand this fourth day of May, in the year of our Lord nineteen hundred and eighty-seven, and of the Independence of the United States of America the two hundred and eleventh.

Ronald Reagan

[FR Doc. 87-10436
Filed 5-4-87; 4:23 pm]
Billing code 3195-01-M

Editorial note: For the President's remarks on signing Proclamation 5647 of May 4, see the *Weekly Compilation of Presidential Documents* (vol. 23; no 18).

Presidential Documents

Proclamation 5648 of May 4, 1987

National Maritime Day, 1987

By the President of the United States of America

A Proclamation

Through the centuries, the American merchant marine has helped our country grow and safeguarded our security. During peacetime, the merchant marine has linked the United States in commerce with trading partners all over the world. In times of war or national emergency, merchant seamen have served with valor and distinction as the lifeline of our armed forces.

Today, the United States is the leader in world trade and the military bulwark of the Free World. The dual roles of the merchant marine in trade and defense remain crucial to our national interests, so the maritime policy of the United States must always keep it strong and competitive. Every American should give thanks for the merchant marine's legacy of service and sacrifices for our freedom and prosperity and for its continuing contributions to our way of life.

In recognition of the importance of the American merchant marine, the Congress, by joint resolution approved May 20, 1933, has designated May 22 of each year as "National Maritime Day" and authorized and requested the President to issue annually a proclamation calling for its appropriate observance. This date was chosen to commemorate the day in 1819 when the SS SAVANNAH left Savannah, Georgia, on the first transatlantic steamship voyage.

NOW, THEREFORE, I, RONALD REAGAN, President of the United States of America, do hereby proclaim May 22, 1987, as National Maritime Day. I urge the people of the United States to observe this day by displaying the flag of the United States at their homes and other suitable places, and I request that all ships sailing under the American flag dress ship on that day.

IN WITNESS WHEREOF, I have hereunto set my hand this fourth day of May, in the year of our Lord nineteen hundred and eighty-seven, and of the Independence of the United States of America the two hundred and eleventh.

Ronald Reagan

[FR Doc. 87-10437
Filed 5-4-87; 4:24 pm]
Billing code 3195-01-M

Presidential Documents

Proclamation 5649 of May 4, 1987

National Correctional Officers Week, 1987

By the President of the United States of America

A Proclamation

No group of Americans has a more difficult or less publicly visible job than the brave men and women who work in our correctional facilities. Correctional officers who work in jails and prisons are currently responsible for the safety, containment, and control of more than 600,000 prisoners. Correctional officers must protect inmates from violence from fellow prisoners, while encouraging them to develop skills and attitudes that can help them become productive members of society after their release.

The general public should fully appreciate correctional officials' capable handling of the physical and emotional demands made upon them daily. Their profession requires careful and constant vigilance, and the threat of violence is always present. At the same time, these dedicated employees try to improve the living conditions of those who are being confined.

It is appropriate that we honor the correctional officers in all our institutions, at all levels of government, for their invaluable contributions to our society.

The Congress, by Public Law 99–611, has designated the week beginning May 3, 1987, as "National Correctional Officers Week" and authorized and requested the President to issue a proclamation in observance of this event.

NOW, THEREFORE, I, RONALD REAGAN, President of the United States of America, do hereby proclaim the week beginning May 3, 1987, as National Correctional Officers Week. I call upon all Americans to observe this week with appropriate activities and ceremonies.

IN WITNESS WHEREOF, I have hereunto set my hand this fourth day of May, in the year of our Lord nineteen hundred and eighty-seven, and of the Independence of the United States of America the two hundred and eleventh.

Ronald Reagan

[FR Doc. 87–10480
Filed 5–5–87; 11:42 am]
Billing code 3195–01–M

Rules and Regulations

Federal Register
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DEPARTMENT OF AGRICULTURE

Animal and Plant Health Inspection Service

7 CFR Part 354

[Docket No. 87-056]

Overtime Work at Border Ports, Sea Ports, and Airports

AGENCY: Animal and Plant Health Inspection Service, USDA.

ACTION: Final rule.

SUMMARY: We are amending the regulations that establish charges for overtime work performed by Plant Protection and Quarantine inspectors of the U.S. Department of Agriculture at border ports, sea ports, and airports. The regulations are amended by: (1) By increasing the hourly rates charged an owner or operator of an aircraft requesting inspection or quarantine services at an airport outside of the regularly established hours of service; and (2) increasing the hourly rates charged a person, firm, or corporation having ownership, custody, or control of plants, plant products, animals, animal byproducts, or other commodities or articles subject to certain inspection, laboratory testing, certification, or quarantine and who requires the services of an employee of Plant Protection and Quarantine on a Sunday or holiday or at any other time outside the employee's regular tour of duty. These increases are commensurate with salary increases for Federal employees in accordance with the Federal Pay Comparability Act of 1970 (Pub. L. 91-656), and Executive Order 12578 dated December 21, 1986, and increases in other costs to the Department.

EFFECTIVE DATE: May 10, 1987.

FOR FURTHER INFORMATION CONTACT: Mr. Paul R. Eggert, Director, National Administrative Planning Staff, Plant Protection and Quarantine, Animal and Plant Health Inspection Service, U.S. Department of Agriculture, Room 614, Federal Building, 6505 Belcrest Road, Hyattsville, MD 20782, 301-436-7250.

SUPPLEMENTARY INFORMATION:

Executive Order 12291 and Regulatory Flexibility Act and Effective Date

We are issuing this rule in conformance with Executive Order 12291, and we have determined that it is not a "major rule." Based on information compiled by the Department, we have determined that this rule will have an effect on the economy of less than $100 million; will not cause a major increase in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions; and will not have a significant adverse effect 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.

Under the circumstances explained below, the Administrator of the Animal and Plant Health Inspection Service has determined that this action will not have a significant impact on a substantial number of small entities.

We are amending the regulations by increasing the hourly rates charged an owner or operator of an aircraft requesting inspection or quarantine services at any airport outside of the regularly established hours of service. The rates are increased by $3.56 per hour for services performed outside of the regularly established hours on a Sunday and by $3.80 per hour for services performed outside of the regularly established hours on a holiday or any other period.

We are also amending the regulations by increasing the hourly rates charged a person, firm, or corporation having ownership, custody, or control of plants, plant products, animals, animal byproducts, or other commodities or articles subject to certain inspection, laboratory testing, certification, or quarantine and who requires the services of an employee of Plant Protection and Quarantine on a Sunday or holiday or at any other time outside the regular tour of duty of the employee. The rates are increased by $3.52 per hour for services performed outside the regular tour of duty on a Sunday and by $2.00 per hour for services performed outside the regular tour of duty on a holiday or any other period.

Services of an employee of Plant Protection and Quarantine at an airport during regularly established hours and during a regular tour of duty are still provided free of charge to those requesting the service. Based on information compiled by the Department, we have estimated that Plant Protection and Quarantine provided an average of 7,856 hours per week of services for which charges were assessed during 1986, and these services were requested by thousands of entities. We do not expect that the number of hours of service for which charges will be imposed will increase significantly in 1987.

The hourly rate for services of an employee of Plant Protection and Quarantine depend entirely upon facts within the knowledge of the Department of Agriculture. The Department has no alternatives to raising the rates. By law, importers and exporters are required to reimburse the Department for its costs associated with services rendered. A cost analysis was performed to determine if fees for overtime are adequate to recover the cost of providing the services. Unless the rates are raised, the Department will not be able to recover the costs for providing services outside regularly established hours or outside regular tours of duty hours.

Accordingly, pursuant to the administrative procedure provisions in 5 U.S.C. 553, we find for good cause that prior notice and other public procedure with respect to this rule are impracticable, unnecessary, and contrary to the public interest; we also find good cause that this rule be made effective less than 30 days after publication of this document in the **Federal Register.**

List of Subjects in 7 CFR Part 354

Agricultural commodities, Exports, Government employees, Imports, Plants (Agriculture) Quarantine, Transportation.

PART 354—OVERTIME SERVICES RELATING TO IMPORTS AND EXPORTS

1. The authority citation for Part 354 continues to read as follows:

Authority: 7 U.S.C. 2260; 49 U.S.C. 1741; 7 CFR 2.17, 2.51, and 371.2(c).

2. Section 354.1(a)(1) is revised to read as follows:

§ 354.1 Overtime work at border ports, sea ports, and airports.

(a)(1) Any person, firm, or corporation having ownership, custody, or control of plants, plant products, animals, animal byproducts, or other commodities or articles subject to inspection, laboratory testing, certification, or quarantine under this chapter and Subchapter D of Chapter I, Title 9 CFR, who requires the services of an employee of Plant Protection and Quarantine on a Sunday or holiday, or at any other time outside the regular tour of duty of the employee, shall sufficiently in advance of the period of Sunday or holiday or overtime service request the Plant Protection and Quarantine inspector in charge to furnish inspection, laboratory testing, certification, or quarantine service during the overtime or Sunday or holiday period, and shall pay the Government therefor at a rate of $32.64 per work-hour per employee on a Sunday and at the rate of $24.48 per work-hour per employee for holiday or any other period; except that for any services performed on a Sunday or holiday, or at any time after 5 p.m. or before 8 a.m. on a weekday, in connection with the arrival in or departure from the United States of a private aircraft or vessel, the total amount payable shall not exceed $25 for all inspection services performed by the Customs Service, Immigration and Naturalization Service, Public Health Service, and the Department of Agriculture; and except that owners and operators of aircraft will be provided service without reimbursement during regularly established hours of service on a Sunday or holiday; and except that the overtime rate to be charged owners or operators of aircraft at airports of entry or other places of inspection as a consequence of the operation of the aircraft, for work performed outside of the regularly established hours of service on a Sunday will be $28.08 and for work performed outside of the regularly established hours of service for a holiday or any other period will be $21.08 per hour, which charges exclude administrative overhead costs.

* * * * *

Done at Washington, DC, this 30th day of April, 1987.

Bert W. Hawkins,

Administrator, Animal and Plant Health Inspection Service.

[FR Doc. 87-10182 Filed 5-5-87; 8:45 am]

BILLING CODE 3410-34-M

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9 CFR Part 97

[Docket No. 87-055]

Overtime Work at Laboratories, Border Ports, Ocean Ports, and Airports

AGENCY: Animal and Plant Health Inspection Service, USDA.

ACTION: Final rule.

SUMMARY: We are amending the regulations that establish charges for overtime work performed by Veterinary Services inspectors of the U.S. Department of Agriculture at laboratories, border ports, ocean ports, and airports. The regulations are amended by: (1) By increasing the hourly rates charged an owner or operator of an aircraft requesting inspection or quarantine services at an airport outside of the regularly established hours of service; and (2) increasing the hourly rates charged a person, firm, or corporation having ownership, custody, or control of animals, animal byproducts, or other commodities subject to certain inspection, laboratory testing, certification, or quarantine and who requires the services of an employee of Veterinary Services on a Sunday or holiday or at any other time outside the employee's regular tour of duty. These increases reflect salary increases for Federal employees in accordance with the Federal Pay Comparability Act of 1970 (Pub. L. 91-656), and Executive Order 12578 dated December 31, 1986, and increases in other costs to the Department.

EFFECTIVE DATE: May 10, 1987.

FOR FURTHER INFORMATION CONTACT: Louise Rakestraw Lothery, Assistant Director, Resource Management Staff, VS, APHIS, USDA, Room 857, Federal Building, 6505 Belcrest Road, Hyattsville, MD 20782, 301-436-8511.

SUPPLEMENTARY INFORMATION:

Executive Order 12291 and Regulatory Flexibility Act and Effective Date

We are issuing this rule in conformance with Executive Order 12291, and we have determined that it is not a "major rule." Based on information compiled by the Department, we have determined that this rule will have an effect on the economy of less than $100 million; will not cause a major increase in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions; and will not have a significant adverse effect 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.

Under the circumstances explained below, the Administrator of the Animal and Plant Health Inspection Service has determined that this action will not have a significant impact on a substantial number of small entities.

We are amending the regulations by increasing the hourly rates charged an owner or operator of an aircraft requesting inspection or quarantine services at an airport outside of the regularly established hours of service. The rates are increased by $3.56 per hour for services performed outside of the regularly established hours on a Sunday and by $3.80 per hour for services performed outside of the regularly established hours on a holiday or any other period.

We are also amending the regulations by increasing the hourly rates charged a person, firm, or corporation having ownership, custody, or control of animals, animal byproducts, or other commodities subject to certain inspection, laboratory testing, certification, or quarantine and who requires the services of the employee of Veterinary Services on a Sunday or holiday or at any other time outside the regular tour of duty of the employee. The rates are increased by $3.52 per hour for services performed outside the regular tour of duty on a Sunday and by $2.00 per hour for services performed outside the regular tour of duty on a holiday or any other period.

Services of an employee of Veterinary Services at an airport during regularly established hours and during a regular tour of duty are still provided free of charge to those requesting the service. Based on information compiled by the Department, we have estimated that Veterinary Services provided an average of 793 hours per week of services for which charges were assessed during 1986, and these services were requested by thousands of entities. We do not expect that the number of hours of service for which charges will be imposed will increase significantly in 1987.

The hourly rate for services of an employee of Veterinary Services

depends entirely upon facts within the knowledge of the Department of Agriculture. The Department has no alternatives to raising the rates. By law, importers and exporters are required to reimburse the Department for its costs associated with services rendered. A cost analysis was performed to determine if fees for overtime are adequate to recover the cost of providing the services. Unless the rates are raised, the Department will not be able to recover the costs for providing services outside regularly established hours or outside regular tours of duty hours.

Accordingly, pursuant to the administrative procedure provisions in 5 U.S.C. 553, we find for good cause that prior notice and other public procedure with respect to this rule are impracticable, unnecessary, and contrary to the public interest; we also find good cause that this rule be made effective less than 30 days after publication of this document in the Federal Register.

Executive Order 12372

This program/activity is listed in the Catalog of Federal Domestic Assistance under No. 10.025 and is subject to the provisions of Executive Order 12372, which requires intergovernmental consultation with State and local officials. (See 7 CFR Part 3015, Subpart V).

List of Subjects in 9 CFR Part 97

Exports, Government employees, Imports, Livestock and livestock products, Poultry and poultry products, Transportation.

PART 97—OVERTIME SERVICES RELATING TO IMPORTS AND EXPORTS

1. The authority citation for Part 97 continues to read as follows:

Authority: 7 U.S.C. 2260; 49 U.S.C. 1741; 7 CFR 2.17, 2.51, and 371.2(d).

2. Section 97.1 is amended by revising the first sentence of paragraph (a) and the last sentence of paragraph (b) to read as follows:

§ 97.1 Overtime work at laboratories, border ports, ocean ports, and airports.

(a) Any person, firm, or corporation having ownership, custody, or control of animals, animal byproducts, or other commodities subject to inspection, laboratory testing, certification, or quarantine under this subchapter and Subchapter G of this chapter, and who requires the services of an employee of Veterinary Services on a Sunday or holiday, or at any other time outside the regular tour of duty of such employee, shall sufficiently in advance of the period of Sunday or holiday or overtime service request the Veterinary Services inspector in charge to furnish inspection, laboratory testing, certification, or quarantine service during such overtime, or Sunday or holiday period, except as provided in paragraph (b) of this section, shall pay the Government therefor at a rate of $32.64 per work-hour per employee on a Sunday and at the rate of $24.48 per work-hour per employee for holiday or any other period; except that for any services performed on a Sunday or holiday, except as provided in paragraph (b) of this section for inspection or quarantine services requested by an owner or operator of an aircraft at an airport on a Sunday or holiday which are performed within regularly established hours of service, or at any time after 5 p.m. or before 8 a.m. on a weekday, in connection with the arrival in or departure from the United States of a private aircraft or vessel, the total amount payable shall not exceed $25 for all inspection services performed by the Customs Service, Immigration and Naturalization Service, Public Health Service, and the Department of Agriculture. * * *

(b) * * * When services are performed outside of the regularly established hours of service on a holiday or Sunday or any other day, the rate to be charged owners or operators of aircraft shall be $28.08 per hour on a Sunday and $21.08 per hour on a holiday or any other day, which charges exclude administrative overhead costs.

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Done in Washington, DC, this 30th day of April, 1987.

Bert W. Hawkins,

Administrator, Animal and Plant Health Inspection Service.

[FR Doc. 87-10183 Filed 5-5-87; 8:45 am]

BILLING CODE 3410-34-M

NUCLEAR REGULATORY COMMISSION

10 CFR Part 50

Production and Utilization Facilities; Timing Requirements for Full Participation Emergency Preparedness Exercises for Power Reactors Prior to Receipt of an Operating License

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Nuclear Regulatory Commission (NRC or Commission) is amending its regulations to change the timing requirements for a full participation emergency preparedness exercise for power reactors prior to issuance of a full-power operating license (one authorizing operation above 5% of rated power of the reactor). The amendment requires a full participation exercise, including State and local governments, to be held within two years before the issuance of a full-power operating license, as opposed to the current requirement of within one year. An exercise which tests the licensee's onsite emergency plan, but which need not include State or local government participation, is still required to be held within one year before issuance of a full-power operating license.

This rule change is unrelated to the Commission's notice of proposed rulemaking that would establish criteria for the evaluation of emergency planning for nuclear plants in those situations in which a State or locality has elected not to participate in the emergency planning process.

EFFECTIVE DATE: This rule is effective on May 6, 1987.

FOR FURTHER INFORMATION CONTACT: Michael T. Jamgochian, Regulatory Applications Branch, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Telephone (301) 443-7657.

SUPPLEMENTARY INFORMATION:

I. Background

This notice of final rulemaking will change the timing requirements for a full participation emergency preparedness exercise for power reactors prior to issuance of a full-power operating license. It is unrelated to the Commission's notice of proposed rulemaking, published in the Federal Register on March 6, 1987 (52 FR 6980), that would establish criteria for the evaluation of emergency planning for nuclear plants in those situations in which a State locality has elected not to participate in the emergency planning process.

The Commission published the proposed timing-requirements rule for comment on December 2, 1986 (51 FR 43369). A notice extending the 30-day comment period was published in the Federal Register on January 7, 1987 (52 FR 543). During the 40-day comment a total of 18 public comments were received. Nine supported the proposed rule and nine opposed it. As indicated below, the Commission has reviewed the comments and has decided to promulgate a final rule which includes a number of modifications from the one

that had been proposed. The Federal Emergency Management Agency, by memorandum dated March 27, 1987, has advised the Commission of its concurrence in the final rule that is being issued here.

When the Commission decided to require a full-participation emergency planning exercise within one year prior to the licensing of a power plant, it based this scheduling decision on a balance between the desirability for an exercise close to the date of licensing in order to assess the adequacy of the emergency plan being tested and the countervailing need to avoid scheduling and resource burdens. Based on the Commission's experience since the original promulgation of the scheduling requirement the Commission now believes that it is appropriate to strike a new balance. The new rule strikes that balance by requiring a full-participation emergency planning exercise within two years prior to the licensing of a power plant, the same scheduling requirement mandated for full-participation emergency planning exercises after licensing.

Since the promulgation of its emergency planning requirements in 1980, both the Commission and the Federal Emergency Management Agency (FEMA) have gained much experience in assessing the results of, and the requirement for, full-participation exercises. Most of these exercises have been the post-licensing exercises that NRC and FEMA regulations now require to be held every two years. In setting the two-year requirement for operating plants in 1984, prior NRC and FEMA experience demonstrated that the reasonableness of emergency planning at a nuclear power plant can be fairly tested and adequately assured by a full-participation exercises which are held every two years rather than on a more frequent basis. 49 FR 27733, 27734–27735 (July 6, 1984). Similarly, the Commission has concluded that no safety requirement mandates a full-participation exercise within one year prior to plant licensing. To the extent that an offsite pre-licensing exercise is intended to reveal whether an emergency plan has fundamental flaws, that purpose can be achieved at least as well by an exercise held within two years of licensing as within one year. To the extent that the exercise is designed to test the preparedness of those individuals and organizations that must participate in offsite emergency planning, NRC and FEMA experience with post-licensing exercises has convinced us that exercises every two years, including remedial exercises when necessary, perform this function satisfactorily. Exercises on a more frequent basis are not necessary to enable the Commission to determine whether an emergency plan provides "reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency." 10 CFR 50.47(a).

Moreover, since the Commission's promulgation of its original requirement for a full-participation exercise within one year of the licensing of a power plant it has also become clear that the resource and scheduling burdens created by this timing requirement have proven far more onerous than originally expected. First, with the United States Court of Appeals for the District of Columbia Circuit's decision in *Union of Concerned Scientists v. NRC*, 735 F.2d 1437 (D.C. Cir. 1984), *cert. denied*, 469 U.S. 1132 (1985), it has become necessary to permit litigation in contested proceedings over the results of pre-licensing exercises. This litigation occasionally has not been completed within the year following the exercise. *See e.g., Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1). Such a delay makes it impossible to comply with the regulatory scheduling requirement and the dictates of *UCS v. NRC*. Even when the delays do not make compliance with both requirements impossible, they unnecessarily complicate both the licensing proceeding and the scheduling of the required pre-licensing exercise. Second, utilities are finding it difficult to predict the actual date when their plants will be receiving an operating license. Thus, experience is proving that it is often difficult to know precisely when the pre-licensing exercise should be scheduled to comply with the one-year requirement.

Certainly, an important indicator of this difficulty is the fact that in the last two years six plants that have been awarded operating licenses have sought and received exemptions from the scheduling requirements of the pre-licensing exercise rule. See 52 FR 713 (January 8, 1987) (Shearon Harris Nuclear Power Plant; eight-month extension); 51 FR 41035 (November 12, 1986) (Perry Nuclear Power Plant, Unit 1; eleven-month extension); 50 FR 32129 (August 8, 1985) (Limerick Generating Station, Unit 1; two-week extension); *id.* 28485 (July 12, 1986) (Enrico Fermi Atomic Power Plant, Unit 2; three-week extension); *id.* 9917 March 12, 1985) (Waterford Steam Electric Station, Unit 3; five-week extension); *id.* 5829 (February 12, 1985) (Byron Station, Unit 1; three-month extension). The frequency and circumstances surrounding these exemptions support the Commission's conclusion that the one-year scheduling requirement has proven difficult to meet and that an emergency exercise conducted more than one year before plant full-power licensing is adequate to assess the propriety of an emergency plant.

As a result of the Commission's experience with the one-year pre-licensing exercise requirements and FEMA and NRC experience with the two-year post-licensing exercise requirements, which provides for remedial exercise when necessary, the Commission has determined that its previous pre-licensing requirement for a full-participation exercise within one year of the licensing of a power plant is not necessary. The benefits of a pre-licensing exercise requirement can be fully achieved by allowing that requirement to be met within two years of the licensing of a power plant. This approach also should reduce the unnecessary scheduling and resource burdens that have become evident to the Commission based upon its experience with the one-year requirement.

II. Summary of Public Comments and Commission Responses

1. Commonwealth Edison

Summary of Comment.

Commonwealth Edison supported that portion of the proposed rule extending from one to two years the period within which the pre-operational offsite exercise must be held. However, Edison disagreed with the last two sentences of the proposed rule which require the applicant to conduct an exercise of its onsite plan if the offsite exercise is more than one year prior to issuance of the operating license. Edison argued that the additional test would be of marginal value and might tend to introduce additional issues into the operating license hearing. On this basis Edison recommended deletion of the last two sentences of the proposed rule.

Commission Response. The Commission disagrees that a pre-operational onsite exercise within one year before issuance of a full-power operating license is of marginal value. The importance of annual onsite emergency planning exercises by the licensee's operational staff has already been recognized in the Commission's regulations, which now require that after a facility is licensed to operate there must be an annual onsite exercise. This annual emergency response function drill ensures that the licensee's new

personnel are adequately and promptly trained and that exisitng licensee personnel maintain their emergency response capability. The existing requirement of a pre-operational onsite exercise within one year prior to full-power license issuance is consistent with this philosophy as well as the Commission's general desire to have pre-operational emergency planning exercises as close as practicable to the time of licensing. And since, unlike the situation with offsite exercises, no one has identified any existing response or timing difficulty with the onsite requirement, we find no reason to revise the requirement at this time.

Moreover, to mandate an onsite exercise within one year of operation while requiring an offsite exercise within two years is a recognition of the distinct nature of the participants involved in each instance. The State and local emergency planning organizations that are primarily involved in offsite emergency planning are in almost all instances organized and trained to deal with emergency situations long before facility operation. While the offsite emergency test is important to judge the ability of these existing organizations to respond to the particular of a radiological emergency, in light of their ongoing responsibility for all types of emergencies a demonstration of offsite preparedness by such agencies within two years prior to licensing affords reasonable assurance of their capabilities at the time of licensing. In contrast, as an applicant makes a full-scale shift from a facility construction to a facility operation mode within the last twelve to eighteen months prior to operation, as a general rule many new operational personnel are retained who must be ready to carry out the utility's onsite emergency response responsibilities. It is also in recognition of this distinction that the Commission finds that an onsite exercise should be required within one year of licensing to provide assurance that the applicant's onsite response capabilities are adequate.

For the purposes of clarity, the Commission is revising the last two sentences, which provide that a pre-operational onsite exercise be held within one year before operation above 5% of rated power.

2. Edison Electric Institute

Summary of Comment. The Edison Electric Institute supported the proposed rule and did not suggest any changes to its text or rationale.

Commission Response. None required.

3. Hunton and Williams

Summary of Comment. This law firm filed comments on behalf of Long Island Lighting Company (LILCO). LILCO stated that it supported the amendment and agreed with the Commission's basic premise that the two-year interval was adequate to ensure an acceptable level of emergency preparedness. LILCO cited its experience with the Shoreham facility as supporting the need for the amendment, and disagreed with Commissioner Asselstine's view that the exemption process was the appropriate means to address the problem. LILCO did not offer any suggestions for changes in the proposed rule.

Commission Response. None required.

4. Marvin Lewis

Summary of Comment. Mr. Lewis opposed the proposed rule, stating that it would "weaken regulation and pose a danger to the health and safety of the public by allowing unlicensed operators more freedom to act with nuclear hazards before having proven that they can act responsibly."

Commission Response. Licensees are not being granted any additional "freedom" by this rule. The full participation exercise must still be held prior to full-power operation of the facility and a pre-operational onsite exercise will continue to be required one year prior to full-power operation. The only change is the timing of the full participation exercise.

5. Atomic Industrial Forum

The Atomic Industrial Forum (AIF) supported the proposed rule but pointed out, with respect to its last two sentences, that Section IV.F.2 of Appendix E already requires a licensee to conduct annual exercises of its mergency plan. AIF suggested that this was a redundant requirement and therefore the last two sentences of the proposed rule should be deleted.

Commission Response. The Commission disagrees that the last two sentences of the proposed rule should be deleted, but has determined to revise those sentences for purposes of clarity. (Also, in the interests of clarity, the preceding sentence is modified to specify that an operating license "for full power" is to be taken, in this context, to be "one authorizing operation above 5% of rated power." The prior reference to 5% of rated power was ambiguous.)

6. Stone & Webster Engineering Corporation

Summary of Comment. Stone & Webster supported the proposed rule and did not suggest any changes.

Commission Response. None required.

7. Seacoast Anti-Pollution League

Summary of Comment. The Seacoast Anti-pollution League (SAPL) opposed the amendment and agreed with the views of Commissioner Asselstine. SAPL argued that emergency response personnel experience fairly rapid turnover, and therefore "a full scale exercise is needed annually." SAPL did not accept the Commission's reliance on the fact that State and local governments are often called upon to respond to a variety on non-nuclear emergencies.

Commission Response. The Commission does not agree that two years between full participation exercises is unwarranted based on personnel changes. The Commission's and FEMA's rules have, since 1984, permitted the two-year cycle for full participation exercises for operating plants. The Commission's view was in 1984, and is today, that there are more beneficial uses of State and local governments' resources, such as providing for additional training and equipment, than using such resources to support an annual full participation exercise.

The Commission does not rely solely on the fact that State and local governments routinely respond to a variety of public emergencies. However, the basic principles involved in handling non-nuclear emergencies, such as evacuations due to an impending hurricane or a leak of toxic chemicals, also apply in responding to a nuclear accident. This lends support to the rule because State and local emergency response organizations are frequently called upon and must maintain a high degree of readiness independent of nuclear power plant exercises.

8. Liz Cullington

Summary of Comment. Ms. Cullington opposed the proposed rule and stated as follows:

> In extending the time period from one year to two, the NRC would be essentially handing to the utilities an across-the-board offer of total exemption from the requirement to prepare emergency response plans for reactors under licensing review, as long as an acceptable number of sheets of paper are submitted to the Commission with appropriate title pages. Under this proposed rule change, a utility could submit a xeroxed copy of Webster's Dictionary as its emergency response plan, and have no deadline for completing the plan itself, as a reality, for either exercising it, or demonstrating that it is feasible.

Commission Response. The proposed rule change is more limited in scope

than the comment suggests. It does not affect either the required content of emergency plans nor the need to exercise such plans on a regular basis. The amendment only extends from one to two years the period within which the preoperational full-participation exercise must be held. All other Appendix E and 10 CFR 50.47 requirements must continue to be met as a prerequisite for issuance of an operating license, including the requirement that a pre-operational onsite exercise be held within one year before going above 5 percent of rated power.

9. Georgia Power Company

Summary of Comment. The Georgia Power Company supported the proposed rule and did not suggest changes in its text.

Commission Response. None required.

10. Nuclear Information and Research Service

Summary of Comment. The Nuclear Information and Research Service (NIRS) opposed the amendment, and stated three reasons for doing so:

1. Changes [in emergency procedures] will be more likely to occur in a new plant where last minute alterations in technical specifications, guidelines, newly trained operators, and actual equipment are common occurrences. It is precisely this kind of change which marks a new plant from an operating plant and which necessitates an exercise no more than one year prior to licensing.

2. An exercise no more than one year prior to licensing "would ensure that any new government officials or workers are familiar with the plans themselves, and are capable of carrying them out."

3. The one-year requirement has been easily satisfied in most cases, and a schedule exemption is an available option where needed.

Commission Response. Changes of the type cited by NIRS do occur prior to issuance of an operating license and throughout the life of an emergency plan. However, these changes would be addressed in the utility's emergency plan. The proposed rule retains the requirement that a pre-operational onsite exercise be held within one year before going above 5 percent of rated power.

When changes in offsite emergency procedures or offsite personnel occur, it is the responsibility of the State or local government to ensure that personnel are adequately trained to carry out their functions under the plan. The licensee is required by Commission regulations to assist in such training. *See* 10 CFR Part 50 Appendix E, Section F (introductory paragraph). The proposed rule would permit the use of a two-year cycle for the holding of a pre-operational offsite exercise. This timing would be consistent with the two-year cycle for the holding of a post-operational offsite exercise for operating plants which has been in effect since 1984.

Sound principles of administrative law dictate that where agency policy is no longer correctly reflected in its rules, rulemaking should be undertaken and public comment sought. The Commission now believes that a two-year period between full participation exercises should be used in all cases, and therefore has proceeded with rulemaking to codify this policy.

11. Union of Concerned Scientists/New England Coalition on Nuclear Pollution

Summary of Comment. The Union of Concerned Scientists (UCS) and the New England Coalition on Nuclear Pollution (NECNP) oppose the rule on the following grounds:

1. The Commission has not adequately explained its reasons for making a change in policy.

2. The proposed rule ignores a distinction previously drawn between pre- and post-operational exercises.

3. The Commission should have prepared a backfit analysis for the proposed rule.

Commission Response. The logic for the proposed rule was stated in the notice of proposed rulemaking (51 FR 43369, December 2, 1986), as follows:

The Commission in 1984 revised its emergency preparedness regulations to relax the frequency of full participation exercises by State and local governments for sites with an operating license. This was done in part because the Federal Emergency Management Agency (FEMA), based on its experience in observing and evaluating exercises, adopted a biennial, rather than an annual, requirement for full participation exercises. Under the biennial requirement adopted by the Commission, State and local governments need only participate in one full participation exercise, at any site, every two years. The Commission revised this regulation because it found that annual exercises used a disproportionate amount of Federal, State, and local government resources, and that State and local governments frequently exercised their emergency preparedness capabilities by responding to a variety of natural and man-made emergencies, such as chemical spills, on a continuing basis. The Commission concluded that biennial full participation exercises were adequate to protect public health and safety. The Commission in revising its regulations for full participation exercises retained the requirement for annual exercises of each licensee's emergency plan (49 FR 27733, July 6, 1984).

The Commission did not make a similar change regarding the required frequency of full participation exercises at sites without an operating license. Because of the opportunity in an operating license proceeding under Section 189a of the Atomic Energy Act for a hearing on the results of a full participation exercise, this requirement created some difficulty in scheduling the exercise so that it would allow time for a hearing while still being conducted within one year of plant readiness to be licensed. In 1982 the Commission adopted a rule which, by finding that emergency preparedness exercises were not required for a Licensing Board, Appeal Board, or Commission decision, would have allowed the exercise to be conducted close enough to a licensing decision to avoid this difficulty and to avoid annual pre-licensing exercises (47 FR 30232, July 13, 1982). However, the Court of Appeals for the District of Columbia Circuit vacated that rulemaking. The court held that the Commission could not remove from the hearing requirements of Section 189a of the Atomic Energy Act a material issue relevant to its licensing decision, and that the prelicensing exercise was such a material issue. *Union of Concerned Scientists v. NRC*, 735 F.2d 1437 (D.C. Cir. 1984), *cert. denied*, 105 S.Ct. 815 (1985).

The Commission has thus been left with a regulatory scheme for frequency of full participation emergency preparedness exercises that treats sites with an operating license differently than sites without an operating license. The Commission does not believe this disparity in treatment is warranted. The Commission is concerned about the burden the present rule may place on State and local governments. The requirement that those governments participate in a full participation exercise every two years is in addition to the requirement for their participation at sites without an operating license. Requiring annual participation at sites without operating licenses could thus place a significant burden on State and local government resources.

The Commission in the prior rulemaking determined that emergency preparedness would be adequate if State and local governments participated in an exercise every two years. There seems to be little reason why State and local governments nonetheless should have to participate in full participation exercises on an annual basis in the pre-licensing stage solely because a license did not issue within 365 days of the exercise. The only requirement should be that the participants be adequately in place and trained to make the exercise meaningful. This could well occur two years before issuance of an operating license. If the exercise demonstrates that preparedness was inadequate, then remedial steps, including another exercise, if appropriate, can be taken. Moreover in accord with the Commission's regulations for sites with operating licenses, applicants will still have to conduct annual exercises, *i.e.*, if the full participation exercise is held more than one year before issuance of the operating license, then the applicant must conduct an exercise of its emergency plan before license issuance. However, that latter exercise need not involve State or local governments.

UCS points out that in a 1982 rulemaking on emergency planning, the Commission remarked on the desirability of having the pre-operational exercise close in time to commercial operation. The reason stated by the Commission was that the "exercises are best held at a later time, when the operating and management staff of the plant—who are central figures in an exercise—are in place and trained in emergency functions." (47 FR 30233, July 13, 1982). As was explained earlier, the Commission continues to support this principle and has retained the requirement that an onsite exercise of the emergency plan be held within one year prior to operation above 5 percent power.

The backfit rule, 10 CFR 50.109, applies only where the Commission seeks to impose new or different requirements on licensees. It does not apply where requirements are either relaxed or deleted.

12. Wells Eddleman, et al.

Summary of Comment. Mr. Eddleman and others joining him oppose the amendment for the following reasons:

1. ". . . a one year time range before operation above 5% power is a practical maximum for giving an up to date "snap shot" assessment of the level and capability of emergency preparedness existing when the plant begins to operate."

2. One year is adequate to litigate the results of the exercise, based on the Shearon Harris proceeding.

3. ". . . nuclear accidents have a tendency to occur early in the operation of a nuclear plant . . .", citing Three Mile Island and the Browns Ferry Fire.

4. The rule is illegal because it is an attempt to deny hearing rights to intervenors in the Shearon Harris case on the exemption granted from the existing one-year requirement.

Commission Response. The Commission disagrees that a full participation exercise is needed within one year of operation to demonstrate adequate emergency preparedness. The Commission has determined that a two-year cycle for full participation exercises is sufficient for making a finding that adequate protective measures can and will be taken in the event of an accident.

The Commission has not based its acceptance of the two year requirement for holding a full participation exercise on the time needed to litigate the results of such exercise. Rather, as indicated above and in response to comment # 11, the Commission has determined that a two-year cycle is an appropriate period of time for holding full participation exercises. With regard to litigation the results of the exercise, under *UCS v NRC*, 735 F.2d 1437 (D.C. Cir. 1984), it is clear that the results of exercises are litigable in the operating license proceeding, irrespective of when those exercises are held, so long as the holding of an exercise is a pre-license requirement. However, while the two year time period provided in this rule was not premised on the time needed to litigate the results of an exercise, as was explained earlier, one of the factors on which the Commission did base this amendment was the observed difficulty in some cases (although not in the Shearon Harris proceeding) in scheduling the exercise so that it would allow time for a hearing while still being conducted within one year of plant readiness to be licensed. Another factor was the observed difficulty of utilities in predicting a plant's readiness for a full-power operating license. In this situation, as in the case of the Shearon Harris plant, while the holding of the full participation exercise and the licensing hearing would be completed within one year, due to unanticipated construction delays the plant would not be ready for a full-power operating license within the one year time frame.

With regard to the commenter's statement that nuclear accidents tend "to occur early," it is correct that the few major nuclear accidents that have occurred, *i.e.*, the Three Mile Island Accident and the Browns Ferry fire, did in fact occur early in the operational history of the plants. However, the number of these occurrences is far too small to establish a "tendency." In any case, the commenter's suggestion that the need for emergency preparedness may be heightened during the initial period of plant operation, even if well taken, does not present a valid objection to this rule change because, for the reasons given above, the rule change does not decrease the level of emergency preparedness at a nuclear power plant.

The license and exemption have already been issued in the Shearon Harris proceeding. This rulemaking was not the basis upon which a hearing on the exemption request was denied. *Carolina Power & Light Co. et al.* (Shearon Harris Nuclear Power Plant) CLI–86–24, 24 NRC ____ (December 5, 1986). Certainly, if the exemption request were pending, it would now be mooted as a result of this rulemaking. The scope of issues open for litigation may be changed by rulemaking. Engaging in such rulemaking has been held by the courts not to deny hearing rights of any person. See *Siegel v. AEC*, 400 F.2d 778 (1968).

13. Laura Drey

Summary of Comment. Ms. Drey opposed the rule change but stated no reasons.

Commission Response. None required.

14. Kenneth Vickery

Summary of Comment. Mr. Vickery opposed the amendment, stating that "the NRC must know if the plants and the surrounding areas are ready for accidents when starting operation since many serious accidents occur early in the operating lives of nuclear power plants."

Commission Response. See response to comment of Wells Eddleman, #12 above.

15. Rachel Allen

Summary of Comment. This comment was a duplicate of Comment #14.

16. Shaw, Pittman, Potts & Trowbridge

Summary of Comment. This law firm filed comments on behalf of 9 entities holding nuclear power plant operating licenses or construction permits. These commenters supported the proposed rule, fundamentally for the reasons cited by the Commission in the notice of proposed rulemaking. The commenters also noted that the proposed rule uses the term "full-scale exercise" which is otherwise undefined in the regulations and recommended that the term "full participation exercise" be used.

Commission Response. The term "full-scale exercise" has been replaced with the term "full-participation exercise" and the last two sentences of the proposed rule have been revised for purposes of clarity.

17. Carolina Power and Light Company

Summary of Comment. Carolina Power and Light Company (CP&L) supported the amendment and cited reasons similar to those given by the Commission. CP&L noted that its recent experience in licensing the Shearon Harris facility bore out the need for the rule change.

Commission Response. None required.

18. North Carolina Department of Crime Control and Public Safety

Summary of Comment. This commenter supported the proposed rule on three grounds:

1. It makes the NRC rule consistent with FEMA's and increases internal consistency in NRC regulations.

2. It reduces undue burdens on State and local governments.

3. It allows more time for litigation of the results of a pre-operational exercise.

Commission Response. The reasons given by this commenter support the Commission's position as stated in the notice of proposed rulemaking.

III. Commission Decision

The Commission has reviewed all comments received and has decided to proceed with a final rule. The text of the proposed rule has been altered as noted in the response to comments #5 and #16 above. Upon publication of the final rule, a full participation exercise must be held within two years prior to issuance of a nuclear power plant operating license for operation above 5 percent rated power. If the full participation exercise is conducted more than one year prior to issuance of an operating license for full power, an onsite exercise which tests the licensee's emergency plans shall be conducted one year before issuance of an operating license for full power.

Additional Views of Commissioner Asselstine

I continue to believe that the requirement to conduct a full participation exercise, which includes State and local government participation, within one year prior to issuance of an operating license is needed to provide an accurate and timely verification of the adequacy of emergency preparedness. The purpose of this requirement is to provide an up-to-date assessment of the state of emergency preparedness for a new plant at the time the plant receives an operating license. This requirement has been easily satisfied in most cases. In the few cases in which there has been some difficulty, the Commission's exemption process provides a suitable alternate method for addressing the situation. Given the satisfactory experience with the current rule and the benefit in having up-to-date and accurate information on the state of emergency preparedness at new nuclear power plants, I would not relax the existing one-year requirement for a full participation exercise.

Environmental Assessment and Finding of No Significant Environmental Impact

The Commission has determined under the National Environmental Policy Act of 1969, as amended, and the Commission's regulations in Subpart A of 10 CFR Part 51, that this rule is not a major Federal action significantly affecting the quality of the human environment and therefore an environmental impact statement is not required. See 10 CFR 51.20(a)(1). Moreover, the Commission has determined, pursuant to 10 CFR 51.32, that the final rule has no significant environmental impact. This determination has been made because the Commission cannot identify any impact on the human environment associated with changing the timing of full participation of State and local governments in pre-licensing emergency preparedness exercises from within one year of license issuance to within two years.

The need for this rulemaking is explained in the Supplementary Information accompanying this final rule. The alternative approaches that were considered in this rulemaking proceeding were:

1. To retain the requirement for a full participation exercise within one year of issuance of an operating license.
2. To relax the requirement to within two years of issuance of an operating license.

There were no environmental impacts identified from either of the alternatives considered.

In addition, when promulgating the original emergency planning and preparedness regulations in 1980, the NRC prepared an "Environmental Assessment for Final Changes to 10 CFR Part 50 and Appendix E of 10 CFR Part 50, Emergency Planning Requirements for Nuclear Power Plants" (NUREG–0685, June 1980), and concluded that under the criteria of 10 CFR Part 51 an environmental impact statement was not required for the Commission's emergency planning and preparedness regulations, which included 10 CFR Part 50, App. E as hereby revised. NUREG–0685 may be examined in the Commission's Public Document Room, 1717 H Street NW., Washington, DC. Copies are available for purchase through the Superintendent of Documents, USGPO, Box 37082, Washington, DC, 20013–7082.

Paperwork Reduction Act

The final rule contains no information collection requirements and therefore is not subject to the requirements of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 *et seq.*).

Regulatory Analysis

The Commission has prepared a regulatory analysis for this regulation. The analysis examines the costs and benefits of the action and the alternatives considered by the Commission. A copy of the regulatory analysis is available for inspection and copying, for a fee, at the NRC Public Document Room, 1717 H Street NW., Washington, DC. Single copies of the analysis may be obtained from Michael T. Jamgochian, Regulatory Applications Branch, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Telephone (301) 443–7657.

Backfit Analysis

This final rule does not modify or add to systems, structures, components or design of a facility; the design approval or manufacturing license for a facility; or the procedures or organization required to design, construct or operate a facility. Accordingly, no backfit analysis pursuant to 10 CFR 50.109 is required for this final rule.

Regulatory Flexibility Certification

In accordance with the Regulatory Flexibility Act of 1980, 5 U.S.C. 605(b), the Commission certifies that this rule will not have a significant economic impact upon a substantial number of small entities. The rule concerns the timing of a full participation exercise of emergency plans for applicants for nuclear power plant licenses. The electric utility companies owning and operating these nuclear power plants are dominant in their service areas and do not fall within the definition of a small business found in the Small Business Act, 15 U.S.C. 632, or within the Small Business Size standards set forth in 13 CFR Part 121. Although part of the burden for the conduct of emergency preparedness exercises falls on State and local governments, the final rule, by changing the frequency of the requirement, if anything lessens the amount of the current burden. Thus, the final rule does not impose a significant economic impact on a substantial number of small entities, as defined in the Regulatory Flexibility Act of 1980.

List of Subjects in 10 CFR Part 50

Antitrust, Classified information, Fire prevention, Incorporation by reference, Intergovernmental relations, Nuclear power plants and reactors, Penalty, Radiation protection, Reactor siting criteria, Reporting and recordkeeping requirements.

For the reasons set out in the preamble, and under the authority of the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and 5 U.S.C. 553, the NRC is adopting the following amendment to 10 CFR Part 50:

PART 50—DOMESTIC LICENSING OF PRODUCTION AND UTILIZATION FACILITIES

1. The authority citation for Part 50 continues to read as follows:

Authority: Secs. 102, 103, 104, 105, 161, 182, 183, 186, 189, 68 Stat. 936, 937, 938, 948, 953, 954, 955, 956, as amended, sec. 234, 83 Stat. 1244, as amended (42 U.S.C. 2132, 2133, 2134, 2135, 2201, 2232, 2233, 2236, 2239, 2282); secs. 201, as amended, 202, 206, 88 Stat. 1242, as amended, 1244, 1246 (42 U.S.C. 5841, 5842, 5846).

Section 50.7 also issued under Pub. L. 95-601, sec. 10, 92 Stat. 2951 (42 U.S.C. 5851). Section 50.10 also issued under secs. 101, 185, 68 Stat. 936, 955, as amended (42 U.S.C. 2131, 2235); sec. 102, Pub. L. 91-190, 83 Stat. 853 (42 U.S.C. 4332). Sections 50.23, 50.35, 50.55, 50.56 also issued under sec. 185, 68 Stat. 955 (42 U.S.C. 2235). Sections 50.33a, 50.55a and Appendix Q also issued under sec. 102, Pub. L. 91-190, 83 Stat. 853 (42 U.S.C. 4332). Sections 50.34 and 50.54 also issued under sec. 204, 88 Stat. 1245 (42 U.S.C. 5844). Sections 50.58, 5091, and 50.92 also issued under Pub. L. 97-415, 96 Stat. 2073 (42 U.S.C. 2239). Section 50.78 also issued under sec. 122, 68 Stat. 939 (42 U.S.C. 2152). Sections 50.80-50.81 also issued under sec. 184, 68 Stat. 954, as amended (42 U.S.C. 2234). Section 50.103 also issued under sec. 108, 68 Stat. 939, as amended (42 U.S.C. 2138). Appendix F also issued under sec. 187, 68 Stat. 955 (42 U.S.C. 2237).

For the purposes of sec. 223, 68 Stat. 958, as amended (42 U.S.C. 2273); §§ 50.10(a), (b), and (c), 50.44, 50.46, 50.48, 50.54, and 50.80(a) are issued under sec. 161b, 68 Stat. 948, as amended (42 U.S.C. 2201(b)); §§ 50.10 (b) and (c), and 50.54 are issued under sec. 161i, 68 Stat. 949, as amended (42 U.S.C. 2201(i)); and §§ 50.55(e), 50.59(b), 50.70, 50.71, 50.72, 50.73, and 50.78 are issued under sec. 161o, 68 Stat. 950, as amended (42 U.S.C. 2201(o)).

Appendix E—[Amended]

2. In Appendix E Section IV, paragraph F.1 and footnote 4 to this section are revised to read as follows:

* * * * *

IV. Content of Emergency Plans

1. A full participation[4] exercise which tests as much of the licensee, State and local emergency plans as is reasonably achievable without mandatory public participation shall be conducted for each site at which a power reactor is located for which the first operating license for that site is issued after July 13, 1982. This exercise shall be conducted within two years before the issuance of the first operating license for full power (one authorizing operation above 5% of rated power) of the first reactor and shall include participation by each State and local government within the plume exposure pathway EPZ and each State within the ingestion exposure pathway EPZ. If the full participation exercise is conducted more than one year prior to issuance of an operating licensee for full power, an exercise which tests the licensee's onsite emergency plans shall be conducted within one year before issuance of an operating license for full power. This exercise need not have State or local government participation.

* * * * *

Dated at Washington, DC, this 30th day of April, 1987.

For the Nuclear Regulatory Commission.

Samuel J. Chilk,

Secretary of the Commission.

[FR Doc. 87-10321 Filed 5-5-87; 8:45 am]

BILLING CODE 7590-01-M

[4] "Full participation" when used in conjunction with emergency preparedness exercises for a particular site means appropriate offsite local and State authorities and licensee personnel physically and actively take part in testing their integrated capability to adequately assess and respond to an accident at a commercial nuclear power plant. "Full participation" includes testing the major observable portions of the onsite and offsite emergency plans and mobilization of State, local and licensee personnel and other resources in sufficient numbers to verifiy the capability to respond to the accident scenario.

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 87-NM-30-AD; Amdt. 39-5620]

Airworthiness Directives; Boeing Model 767 Series Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), applicable to certain Boeing Model 767 series airplanes, which requires a one-time inspection of the trailing edge flap drive vapor seals to assure that they are installed correctly and rework, if necessary. This amendment is prompted by a report of a control restriction in the lateral control system which resulted from an improperly installed vapor seal. This condition, if not corrected, could result in insufficient control authority or in controls that are jammed with a continuous roll input.

EFFECTIVE DATE: May 22, 1987.

ADDRESSES: The applicable service information may be obtained from the Boeing Commercial Airplane Company, P.O. Box 3707, Seattle, Washington 98124. This information may be examined at FAA, Northwest Mountain Region, 17900 Pacific Highway South, Seattle, Washington, or Seattle Aircraft Certification Office, FAA, Northwest Mountain Region, 9010 East Marginal Way South, Seattle, Washington.

FOR FURTHER INFORMATION CONTACT: Mr. Richard Yarges, Airframe Branch, ANM-120S; telephone (206) 431-1925. Mailing address: FAA, Northwest Mountain Region, 17900 Pacific Highway South, C-68966, Seattle, Washington 98168.

SUPPLEMENTARY INFORMATION: This amendment is prompted by a report of a control restriction in the lateral control system of a Boeing Model 767 airplane. In this incident, right control wheel motion was restricted to about 20 percent of full travel. This restriction has been attributed to interference between a trailing edge flap drive vapor seal and the right inboard aileron droop quadrant. The operator who reported the incident stated that the airplane on which it occurred had accumulated over 14,000 hours time-in-service at the time of the incident and that the vapor seal on that airplane had not been altered since the airplane was new. This operator also reported that the interfering vapor seal could be rotated a small amount by hand so that it would either clear or interfere with the aileron droop quadrant.

The FAA attributes the interference to the improper installation of a trailing edge flap drive vapor seal and its supporting structure, followed by a small amount of rotational migration of the vapor seal while it was in service.

The proper installation of a vapor seal is with its flanges aligned horizontally. The vapor seal on the aircraft with the control restriction problem was reported to have had its flanges aligned vertically. With the horizontal installation, migration of a vapor seal to the extent that control interference could occur is not possible because of design features that prevent this.

Limited-control wheel movement such as encountered by the previously mentioned operator could limit lateral control of an airplane. If the droop quadrant is forced to travel beyond an interfering seal flange, the quadrant could become jammed in that position, which would result in a crew's inability to operate the ailerons on one wing and related spoilers. That condition could render one control wheel ineffective and require the other control wheel to be held in the opposite position to maintain level flight; roll control would be reduced significantly.

The FAA has reviewed and approved Boeing Alert Service Bulletin 767-27A0074, dated March 20, 1987, which describes inspections and rework procedures, if necessary, for the trailing edge flap drive vapor seals to assure that they are correctly installed.

Since this condition is likely to exist or develop on other airplanes of the same type design, this AD requires that a one-time inspection and rework, if necessary, of the trailing edge flap drive vapor seals to be accomplished in accordance with the aforementioned service bulletin.

During the investigation of this incident, it was discovered that the Boeing 767 Illustrated Parts Catalog, the Boeing 767 Maintenance Manual, and the Boeing 767 Maintenance Planning Data document all contain illustrations depicting vapor seals installed incorrectly. In order to prevent the improper installation of the vapor seal from re-occurring, this AD notes that operators should revise the FAA-approved airplane maintenance program so that the reinstallation instructions for the vapor seals are in concert with the aforementioned Boeing Alert Service Bulletin.

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 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

PART 39—[AMENDED]

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:

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.

2. By adding the following new airworthiness directive:

Boeing: Applies to Model 767 series airplanes, as listed in Boeing Alert Service Bulletin 767-27A0074, dated March 20, 1987, certificated in any category. Compliance required as indicated, unless previously accomplished.

To prevent lateral control system restriction or jamming resulting from improper installation of a trailing edge flap drive vapor seal, accomplish the following:

A. Within the next 100 landings or 30 days after the effective date of this AD, whichever occurs first, inspect the trailing edge flap drive vapor seals for correct installation in accordance with Boeing Alert Service Bulletin 767-27A0074, dated March 20, 1987, or later FAA-approved revision. Vapor seals found to be installed incorrectly must be reworked to correct the installation before further flight in accordance with the instructions contained in the aforementioned alert service bulletin.

Note.—At the time of issuance of this AD, the Boeing 767 Illustrated Parts Catalog, the Boeing 767 Maintenance Manual, and the Boeing 767 Maintenance Planning Data document all contained illustrations depicting a trailing edge flap drive vapor seal installed incorrectly, with the vapor seal flanges aligned vertically. The FAA-approved airplane maintenance program should be revised to take account of these errors.

B. An alternate means of compliance which provides an acceptable level of safety, may be used when approved by the Manager, Seattle Aircraft Certification Office, FAA, Northwest Mountain Region.

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 the Boeing Commercial Airplane Company, P.O. Box 3707, Seattle, Washington 98124. This information may be examined at FAA, Northwest Mountain Region, 17900 Pacific Highway South, Seattle, Washington, or Seattle Aircraft Certification Office, FAA, Northwest Mountain Region, 9010 East Marginal Way South, Seattle, Washington.

This amendment becomes effective May 22, 1987.

Issued in Seattle, Washington, on April 28, 1987.

Frederick M. Isaac,

Acting Director, Northwest Mountain Region.

[FR Doc. 87-10237 Filed 5-5-87; 8:45 am]

BILLING CODE 4910-13-M

14 CFR Part 39

[Docket No. 87-CE-13-AD; Amdt. 39-5616]

Airworthiness Directives; Messerschmitt-Bolkow-Blohm GmbH, (MBB) Models BO-209-150FV, -150RV, -160FV, -160RV, -150FF "MONSUN" Series Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new Airworthiness Directive (AD), applicable to Messerschmitt-Bolkow-Blohm GmbH, (MBB) Models BO-209-150FV, -150RV, -160FV, -160RV, -150FF "MONSUN" Series airplanes, which requires ultrasonic, eddy current testing, modification, and repetitive inspections of selected portions of the wing spar carry-through lower cap strip, and prohibition from further acrobatic flight. This AD is based upon one accident in which a Model BO-209 airplane lost a wing on an acrobatic flight at high positive g-loads. The inspection will detect fatigue cracks and preclude the loss of a wing.

DATES:

Effective Date: May 6, 1987.

Compliance: As described in the body of the AD.

ADDRESSES: Technical Note (TN) No. 209-1/87, dated January 22, 1987, Technical Instruction (TI) No. 209-1/87, dated January 26, 1987, TI No. 209-2/87, and MBB Instruction No. 80-L-32-2611, applicable to this AD may be obtained from Messerschmitt-Bolkow-Blohm GmbH, Post fach 801160, D-8000 Munchen 80, Federal Republic of Germany. This information may be examined at the Rules Docket, FAA, Office of the Regional Counsel, Room 1558, 601 East 12th Street, Kansas City, Missouri 64106.

FOR FURTHER INFORMATION CONTACT: Mr. Munro Dearing, Aircraft Certification Staff, AEU-100, Europe, Africa, and Middle East Office, FAA, c/o American Embassy, B-1000, Brussels, Belgium; Telephone (322) 513.38.30; or Mr. Herman C. Belderok, Foreign FAR 23 Section, Central Region, ACE-109, 601 East 12th Street, Kansas City, Missouri 64106; Telephone (816) 374-6932.

SUPPLEMENTARY INFORMATION: The West German Civil Airworthiness Authority, the Luftfarhrt-Bundesamt (LBA), issued an Airworthiness Directive (AD) 86-255MBB, dated December 1, 1986, prohibiting further flight of the Model BO-209 airplanes based upon an accident involving a

Model BO-209 "MONSUN" airplane in which a wing was lost on an acrobatic flight at high positive g-loads. The broken spar boom showed fatigue cracks. As a result, the manufacturer, MBB, issued Technical Note (TN) No. 209-1/87, dated January 22, 1987, and Technical Instruction (TI) No. 209-1/87, dated January 26, 1987, which provide for: (a) Removing four rivets around each elongated hole (the passages for the landing gear strut through the wing spar carry-through), removing any flutes or score marks around these holes by polishing, performing an ultrasonic test of the area around the elongated holes for cracks, performing an eddy current test of the area adjacent to the associated rivet holes for cracks; if cracks are found, further flight is prohibited until an approved manufacturer's repair scheme is accomplished; modification of the rivet holes and the installation of HI-LOK helical rivets; (b) performing an ultrasonic test for cracks in the area around the elongated holes toward the HI-LOK rivets on or before 3,000 hours time-in-service (TIS) and every 500 hours TIS thereafter; (c) performing an ultrasonic test for cracks in the transition radii of the fuselage mounted left and right-hand wing upper and lower attachment brackets; (d) visual inspection of the forward and aft frame plates which form the forward and aft metal webs of the wing spar carry-through in the adapter structure to the wing stub; (e) prohibiting all Model BO-209 airplanes from further acrobatic flight; and (f) permitting ferry flight to a maintenance facility for airplanes not previously used for acrobatics, or only after a visual inspection shows that the affected spar area is free of cracks on airplanes previously used for acrobatic flight. Due to location, physical construction and close tolerance requirements, special tools and training provided by the manufacturer are required for accomplishment of the inspection and modification of these critical areas. As a result, the LBA has issued a revised AD 86-255/2MBB, dated January 27, 1987, which requires inspection and corrective action if required in accordance with MBB TN No. 209-1/87. On airplanes operated under West German registration, this action has the same effect as an AD on airplanes certified for operation in the United States. The FAA relies upon the certification of the LBA combined with FAA review of pertinent documentation in finding compliance of the design of these airplanes with the applicable United States airworthiness requirements and the airworthiness and conformity of products of this design certificated for operation in the United States.

The FAA has examined the available information related to the issuance of MBB TN No. 209-1/87, dated January 22, 1987, and TI No. 209-1/87, dated January 26, 1987, and the mandatory classification of this TN by the LBA. Based on the foregoing, the FAA has determined that the condition described herein is an unsafe condition that may exist or develop on other products of the same type design certificated for operation in the United States.

Therefore, an AD is being issued requiring (a) removal of four rivets around each elongated hole (the passage for the landing gear strut through the wing spar carry-through), removal of any flutes or score marks around these holes by polishing, an ultrasonic test of the area around the elongated holes for cracks, an eddy current test of the area adjacent to the associated rivet holes for cracks; if a crack is found, further flight is prohibited until an FAA approved manufacturer's repair scheme is accomplished; modification of the rivet holes and the installation of HI-LOK helical rivets; (b) ultrasonic testing for cracks of the area around the elongated holes toward the HI-LOK rivets on or before 3,000 hours time-in-service (TIS) and every 500 hours TIS thereafter; (c) performing an ultrasonic test for cracks in the transition radii of the fuselage mounted left and right-hand wing upper and lower attachment brackets; (d) visual inspection of the forward and aft frame plates which form the forward and aft metal webs of the wing spar carry-through in the adapter structure to the wing stub; (e) prohibition for all Model BO-209 airplanes from further acrobatic flight, and (f) permission for a ferry flight to a maintenance facility for airplanes not previously used for acrobatics, or only after a visual inspection shows that the affected spar area is free of cracks on airplanes previously used for acrobatic flight. Because an emergency condition exists that requires the immediate adoption of this regulation, it is found that notice and public procedure hereon are impractical and contrary to the public interest, and good cause exists for making this amendment effective in less than 30 days.

The FAA has determined that this regulation is an emergency regulation that is not major under section 8 of 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 regulation, a final regulatory evaluation or analysis, as appropriate, will be prepared and placed in the regulatory docket (otherwise, an evaluation is not required). A copy of it, when filed, may be obtained by contacting the Rules Docket under the caption "ADDRESSES" at the location identified.

List of Subjects in 14 CFR Part 39

Air transportation, Aviation safety, Aircraft, Safety.

Adoption of the Amendment

PART 39—[AMENDED]

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends § 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 11.89.

2. By adding the following new AD:

Messerschmitt-Bolkow-Blohm GmbH (MBB): Applies to Models BO-209-150FV, -150RV, -160FV, -160RV, and -150FF "MONSUN" airplanes (all serial numbers) certificated in any category.

Compliance: Required as indicated after the effective date of this AD, unless already accomplished.

To preclude inflight wing separation, accomplish the following:

(a) Before further flight:

(1) Inspect and modify the wing spar carry-through lower cap strip in the fuselage area in accordance with the "Inspection of Wing Spar Carry-Through" paragraph of MBB Technical Instruction No. 209-1/87, dated January 26, 1987 (hereinafter referred to as MBB TI No. 209-1/87), and the manufacturer's maintenance manual procedures, as follows:

(i) Jack up the airplane and remove both main landing gear struts.

(ii) Remove both landing gear brackets, Part Number (P/N) 209-21233 and P/N 209-21243.

(iii) Drill out the rivets (four each) on each side of the right and left-hand elongated holes (the passage for the landing gear strut through the wing spar carrythrough).

(iv) Examine the surface quality adjacent to each elongated hole and the associated four rivet holes, and remove any visible flutes or score marks by polishing.

(v) Carry out an ultrasonic test of the area adjacent to the elongated holes for cracks. If any crack is detected, accomplish paragraph (b) of this AD.

(vi) Carry out an eddy current test of the area adjacent to the associated rivet holes for cracks. If any crack is detected, accomplish paragraph (b) of this AD.

(vii) Modify the four rivet holes adjacent to each of the above-mentioned elongated holes by reaming out the rivet holes, consolidating the rivet hole walls, re-reaming the holes, and inserting HI-LOK helical rivets, in accordance with instructions contained in MBB TI No. 209-1/87.

(viii) Reinstall the landing gear brackets, P/N 209-21233 and P/N 209-21243.

(ix) Replace unserviceable rubber bearings, P/N 209-51003.02, with new serviceable parts.

(x) Reinstall the main landing gear struts.

Caution: During reinstallation of the struts, scoring of the surface adjacent to the elongated holes of the spar carry-through must be avoided. If scoring damage occurs, repeat steps (a)(1)(iv) through (a)(1)(vi) of this AD.

(2) Carry out an ultrasonic test for cracks in the transition radii of the fuselage mounted wing attachment brackets in accordance with instructions contained in MBB TI No. 209-1/87. If any crack is detected, accomplish paragraph (b) of this AD.

(3) Visually inspect for cracks or deformation of the forward and aft frame plates which form the forward and aft metal webs of the wing spar carry-through in the adapter structure to the wing stub in accordance with instructions contained in MBB TI No. 209-1/87. If any crack is detected, accomplish paragraph (b) of this AD.

(4) The inspection, corrective action, and modification specified in paragraph (a) of this AD must be performed at an appropriately rated FAA repair station by personnel specifically trained by MBB.

(b) If any crack is detected, before further flight, accomplish the following:

(1) Inform the manufacturer at the address listed below of the crack(s) found.

(2) Request a manufacturer repair procedure approved by the FAA.

(3) Incorporate the FAA approved repair procedures.

(c) Prior to further flight:

(1) Change the *"Limitations"* section of the FAA approved Model BO-209 *"Monsun"* Approved Flight Manual (AFM) using pen and ink, and operate the airplane in accordance with these limitations as follows:

(i) Paragraph 2.9.2 of the AFM, change "above" to "up to," to read as follows: "Utility Category: Spinning with flaps retracted, lazy eights, chandelles, steep turns up to 60° bank."

(ii) Paragraph 2.12.9 of the AFM, change "above" to "up to" in Section 2. "Utility Category" to read as follows: "2. *Utility Category* . . . lazy eight up to 60° bank . . ."

(2) Fabricate and install on the canopy center line strip, visible to the pilots, the following placard using letters of a minimum 0.10 inch in height: *"Acrobatic Flight Prohibited".*

(3) Modify the limitations placard mounted on the canopy center line strip by permanently deleting or obliterating the following words:

"Only if accelerometer is installed: Slow roll 125 Kt, wing over, loop 135 Kt, steep turns above 60° bank 117 Kt."

Note.—The placard required by paragraph (c)(2) of this AD may be mounted in a suitable manner to cover the above-stated text to satisfy this requirement.

(d) Upon accumulating 3000 hours time-in-service (TIS) and every 500 hours TIS thereafter, carry out an ultrasonic test of the wing spar carry-through lower cap strip area adjacent to the elongated holes and the associated four rivet holes with HI-LOK rivets for cracks in accordance with the MBB Technical Note 209-1/87, page 3, dated January 22, 1987. If any crack is detected, before further flight, accomplish the repairs specified in paragraph (b) of this AD.

(e) If a ferry flight to an approved maintenance location is required:

(1) Airplanes not previously used for acrobatics may be flown to the location in accordance with FAR 21.197.

(2) Airplanes previously used for acrobatics must be visually inspected for cracks prior to the ferry flight in accordance with the "sketch" (page 4 of 4) of the MBB Technical Note No. 209-1/87, dated January 22, 1987. If any crack is found, further flight is prohibited until all actions of paragraphs (a) and (b) of this AD are accomplished.

(f) An equivalent means of compliance with this AD may be used if approved by the Manager, Aircraft Certification Staff, AEU-100, Europe, Africa, and Middle East Office, FAA, c/o American Embassy, B-1000 Brussels, Belgium.

All persons affected by this directive may obtain copies of the documents referred to herein upon request to Messerschmitt-Bolkow-Blohm GmbH, Department 1QS 143, Post fach 801160, D-8000 Munchen 80, Federal Republic of Germany; or may examine the documents referred to herein at FAA, Office of the Regional Counsel, Room 1558, 601 East 12th Street, Kansas City, Missouri 64106.

This amendment becomes effective on May 6, 1987.

Issued in Kansas City, Missouri, on April 21, 1987.

Jerold M. Chavkin,

Acting Director, Central Region.

[FR Doc. 87-10232 Filed 5-5-87; 8:45 am]

BILLING CODE 4910-13-M

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14 CFR Part 73

[Airspace Docket No. 86-AGL-30]

Amendments to Restricted Area R-4202 Lake Margrethe, MI

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: This action changes the time of designation and the controlling agency for Restricted Area R-4202 Lake Margrethe, MI. The times of use of R-4202 have been modified to accommodate the Department of the Army's increased weapons training requirements.

EFFECTIVE DATE: 0901 UTC, July 30, 1987.

FOR FURTHER INFORMATION CONTACT: Paul Gallant, 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) 267-9253.

SUPPLEMENTARY INFORMATION:

History

On January 23, 1987, the FAA proposed to amend Part 73 of the Federal Aviation Regulations (14 CFR Part 73) to extend the present time of designation and correct the controlling agency for Restricted Area R-4202 Lake Margrethe, MI (52 FR 2546). Interested parties were invited to participate in this rulemaking proceeding by submitting written comments on the proposal to the FAA. No comments objecting to the proposal were received. Except for editorial changes, this amendment is the same as that proposed in the notice. Section 73.42 of Part 73 of the Federal Aviation Regulations was republished in Handbook 7400.6C dated January 2, 1987.

The Rule

This amendment to Part 73 of the Federal Aviation Regulations changes the time of designation and the controlling agency for Restricted Area R-4202 Lake Margrethe, MI.

The FAA has determined that this regulation only involves an established body of technical regulations for which frequent and routine amendments are necessary to keep them operationally current. It, therefore: (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); 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 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 73

Aviation safety, Restricted areas.

Adoption of the Amendment

PART 73—[AMENDED]

Accordingly, pursuant to the authority delegated to me, Part 73 of the Federal Aviation Regulations (14 CFR Part 73) is amended, as follows:

1. The authority citation for Part 73 continues to read as follows:

Authority: 49 U.S.C. 1348(a), 1354(a), 1510, 1522; E.O. 10854; 49 U.S.C. 106(g) (Revised Pub. L. 97–449, January 12, 1983); 14 CFR 11.69.

§ 73.42 [Amended]

2. Section 73.42 is amended as follows:

R–4202 Lake Margrethe, MI [Amended]

By removing the present time of designation and controlling agency and substituting the following:

Time of designation. September 1 through May 31 by NOTAM 24 hours in advance; and June 1 through August 31 with specific dates to be published by NOTAM.

Controlling agency. FAA, Minneapolis ARTCC.

Issued in Washington, DC, on April 27, 1987.

Daniel J. Peterson,

Manager, Airspace-Rules and Aeronautical Information Division.

[FR Doc. 87–10229 Filed 5–5–87; 8:45 am]

BILLING CODE 4910–13–M

SECURITIES AND EXCHANGE COMMISSION

17 CFR Parts 240 and 249

[Release No. 34–24372; File No. S7–4–87]

Government Securities Act, Implementation, Revision to Form BD

AGENCY: Securities and Exchange Commission.

ACTION: Adoption of Final Rules and Revisions to Form BD.

SUMMARY: The Commission is adopting previously proposed rules to implement provisions of the Government Securities Act of 1986, which requires currently unregulated government securities brokers or government securities dealers to register with the Commission. Registered broker-dealers who act as government securities brokers or government securities dealers must file written notice with the Commission. The rules prescribe the form and information required to be filed by government securities broker-dealers in their applications for registration with the Commission. The Commission also is adopting previously proposed revisions to Form BD, the form used to register as a broker-dealer. The proposed revisions adapt the form for use by government securities broker-dealers and enable government securities broker-dealers currently registered or registering with the Commission to use Form BD in order to notify the Commission of their activities as government securities broker-dealers. The Commission is adopting a technical revision to Rule 15b1–3 to correct a typographical error and revisions to the description of Form BDW appearing at 17 CFR 249.501a to include references to Commission rules and statutory sections relating to government securities brokers and government securities dealers.

EFFECTIVE DATES: July 25, 1987, except for amendments to Form BD in § 249.501, which are effective May 13, 1987.

FOR FURTHER INFORMATION CONTACT: Lynne G. Masters, Esq. at (202) 272–2848, Division of Market Regulation, Securities and Exchange Commission, 450 Fifth Street NW., Washington, DC 20549.

SUPPLEMENTARY INFORMATION:

Introduction

On October 28, 1986, the Securities Exchange Act of 1934 (the "Exchange Act") was amended by Pub. L. 99–571,[1] the Government Securities Act of 1986 (the "Act"). As amended, the Exchange Act contains a new section 15C(a) that requires government securities brokers [2] and government securities dealers [3] other than those already registered with the Commission or financial institutions [4] to register with the Commission by July 25, 1987.[5] Under the Act, broker-dealers currently registered with the Commission [6] that act as government securities brokers or government securities dealers are not required to re-register with the Commission. They are, however, required to file by July 25, 1987 [7] written notice with the Commission that they are government securities brokers or government securities dealers.[8] Similarly, financial institutions that are government securities brokers or dealers are required to file with their appropriate regulatory agency [9] by July

[1] 100 Stat. 3208.

[2] New section 3(a)(43) of the Exchange Act defines a government securities broker as any person regularly engaged in the business of effecting transactions in government securities for the account of others, but does not include—

(A) Any corporation the securities of which are government securities under subparagraph (B) or (C) of paragraph (42) of this subsection; or (B) any person registered with the Commodity Futures Trading Commission, any contract market designated by the Commodity Futures Trading Commission, such contract market's affiliated clearing organization, or any floor trader on such contract market, solely because such person effects transactions in government securities that the Commission, after consultation with the Commodity Futures Trading Commission, has determined by rule or order to be incidental to such person's futures-related business.

[3] New section 3(a)(44) of the Exchange Act defines a government securities dealer as:

Any person engaged in the business of buying and selling government securities for his own account, through a broker or otherwise, but does not include—

(A) Any person insofar as he buys or sells such securities for his own account, either individually or in some fiduciary capacity, but not as a part of a regular business;

(B) Any corporation the securities of which are government securities under subparagraph (B) or (C) of paragraph (42) of this subsection;

(C) Any bank, unless the bank is engaged in the business of buying and selling government securities for its own account other than in a fiduciary capacity, through a broker or otherwise; or

(D) Any person registered with the Commodity Futures Trading Commission, any contract market designated by the Commission, any contract market designated by the Commodity Futures Trading Commission, such contract market's affiliated clearing organization, or any floor trader on such contract market, solely because such person effects transactions in government securities that the Commission, after consultation with the Commodity Futures Trading Commission, has determined by rule or order to be incidental to such person's futures-related business.

[4] New section 3(a)(46) of the Exchange Act defines "financial institution" as "(A) a bank as defined in section 3(a)(6) of the Act, (B) a foreign bank, and (C) an insured institution as such term is defined in section 401 of the National Housing Act."

[5] Government securities brokers and dealers registering pursuant to section 15C(a) are also required to become members of a registered securities association or a national securities exchange. *See* section 15C(e)(1).

[6] These broker-dealers (hereinafter referred to as "registered broker-dealers") are broker-dealers registered under section 15(b) of the Exchange Act and non-bank intrastate municipal securities dealers registered under section 15B of the Exchange Act. *See* section 3(a)(48).

[7] Because July 25, 1987 falls on a Saturday, registered broker-dealers required to file notice must file their notices no later than July 27, 1987. *See* Rule 0–3(a).

[8] After the effective date of the amendments, all registered broker-dealers that are government securities broker-dealers are required by section 15C(a)(1)(B)(i) to file a notice with the Commission when they cease to act as a government securities broker or dealer. Section 15C(a)(1)(B) provides that a government securities broker or dealer must file a written notice with the appropriate regulatory authority when it ceases to act as a government securities broker or dealer. Although the literal language of this provision could be interpreted to apply to any government securities broker or dealer, the Commission believes that Congress intended this provision to apply only to broker-dealers registered pursuant to sections 15 and 15B and financial institutions, and not to government securities broker-dealers registered solely pursuant to section 15C(a)(1)(A).

[9] As amended, section 3(a)(34) of the Exchange Act defines "appropriate regulatory agency" to include the following new paragraph:

(G) When used with respect to a government securities dealer, or person associated with a government securities broker or government securities dealer:

(i) The Comptroller of the Currecy, in the case of a national bank, a bank in the District of Columbia

Continued

25, 1987 written notice in the form prescribed by the Board of Governors of the Federal Reserve System.

Government securities brokers and government securities dealers are subject to the rulemaking authority of the Secretary of the Treasury ("Treasury") in the areas of financial responsibility, reporting, recordkeeping, and exemptions from rulemaking. The Treasury has proposed rules in these areas, at 17 CFR 400.1 through 405.3.

For government securities broker-dealers required to register under section 15C(A(1)(A) of the Exchange Act, the Act directs the Commission to prescribe the forms to be used for registration and for withdrawal from registration, as well as the information that must be filed with the required forms. In addition, the Act authorizes the Commission to establish the form to be used by registered broker-dealers that must file notice with the Commission of their status as government securities broker-dealers. In order to implement the registration, withdrawal from registration, and notice requirements of the Act, the Commission is adopting the rules described more fully below and the corresponding revisions to Form BD.[10] Unless otherwise noted, these rules impose upon government Securities broker-dealers required to register under the Act[11] disclosure and filing requirements for registration and withdrawal from registration similar to those that are imposed upon other broker-dealers. The revisions to Form BD are intended to adapt the form for use by government securities broker-dealers applying for registration and by registered broker-dealers notifying the Commission of their government securities activities or intention to cease such activities.

As described more fully below, the Commission received two comment letters on the proposal.[12] One Commentator supported the proposal but suggested that the Commission consider removing proposed exemptions from one of the rules. The other Commentator requested clarification of one of the rules.

I. Discussion of Rules

1. Rule 15Cal–1

The Commission is adopting proposed Rule 15Cal–1 to implement the requirement that government securities broker-dealers already registered with the Commission pursuant to sections 15(b) or 15B(a) of the Exchange Act file written notice with the Commission that they are government securities brokers or dealers.[13] The Rule requires such government securities broker-dealers to file notice on Form BD that they are government securities broker-dealers by July 25, 1987. Proposed Rule 15Cal–1 also requires a registered broker-dealer that begins government securities activities after July 25, 1987 to file written notice on Form BD with the Commission on or prior to the day it begins acting as a government securities broker-dealer. Paragraph (b) of the Rule requires a registered broker-dealer that has previously filed notice of government securities activities to file written notice on Form BD within 30 days of ceasing to act as a government securities broker-dealer.

2. Rule 15Ca2–1

Under paragraph (a) of Rule 15Ca2–1, government securities broker-dealers required to register pursuant to new section 15C(a) (1) (A) are required to apply for registration on Form BD. Form BD is the uniform application form for broker-dealer registration[14] used by the Commission, state securities regulators, and the National Association of Securities Dealers, Inc. ("NASD").[15] Form BD requires that an applicant provide the Commission with information concerning the nature of its business, the background of its principals, its controlling persons, and its employees and is designed to permit the Commission to determine whether the applicant meets the statutory requirements to engage in the securities business.[16] Because the Act requires applicants registering under section 15C(a) (1) (A) to meet substantially the same statutory requirements as other applicants for broker-dealer registration, the Commission has determined to use Form BD as the application for registration for government securities broker-dealers. Government securities broker-dealers required to register pursuant to section 15C(a)(1)(A) will be

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examined by the Comptroller of the Currency, or a Federal branch or Federal agency of foreign bank (as such terms are used in the International Banking Act of 1978);

(ii) The Board of Governors of the Federal Reserve System, in the case of a State member bank of the Federal Reserve System, A foreign bank, a State branch or a State agency of a foreign bank, or a Commercial lending company owned of controlled by a foreign bank (as such terms are used in the International Banking Act of 1978);

(iii) The Federal Deposit Insurance Corporation, in the case of a bank insured by the Federal Deposit Insurance Deposit Insurance Corporation (other than a member of the Federal Reserve System or a Federal Savings Bank);

(iv) The Federal Home Loan Bank Board, in the case of a Federal Savings and Loan Association, Federal Savings Bank, or District of Columbia savings and loan association;

(v) The Federal Savings and Loan Insurance Corporation, in the case of an institution insured by the Federal Savings and Loan Insurance Corporation (other than a Federal Savings and Loan Association, Federal Savings Bank, or District of Columbia savings and loan association);

(vi) The Commission, in the case of all other government securities brokers and government securities dealers.

The term "District of Columbia savings and loan associations" means "any association subject to examination and supervision by the Federal Home Loan Bank Board under section 8 of the Home Owners Loan Act of 1933."

[10] The Commission will exercise its interpretive and no-action authority in determining whether registration under the Act is required. *See* S. Rep. No. 426, 99th Cong. 2d. Sess. n. 37 (1986). Requests for interpretative or no-action advice should be addressed to the Chief Counsel, Division of Market Regulation. The Act vests Treasury with the authority to exempt and government securities broker or government securities dealer from provisions of the Act, including registration. Requests for exemptions by government securities brokers or government securities dealers should be addressed to the Office of the Deputy Assistant Secretary (Federal Finance) Room 2334, Main Treasury Building, 1500 Pennsylvania Avenue, NW., Washington, DC. 20220

[11] As described more fully below, the effective date for the amended Form BD is seven days from the date it is published in the **Federal Register**. All new broker-dealers that register with the Commission on and after the effective date of the revised form will be required to complete the new Form BD.

[12] *See infra* text at n. 20.

[13] Section 15C(a) (1) (B).

[14] Form BD is the form filed by an applicant to become registered pursuant to section 15(b) of the Exchange Act. *See* Rule 15bl–1. In addition, intrastate nonbank municipal securities dealers required to register under Section 15B(a) file an application for registration with the Commission on Form BD. *See* Rule 15Ba2–2. Municipal securities dealers that are banks or separately identifiable departments or divisions of banks are not brokers or dealers because of the exception for banks contained in the section 3(a) (4) definition of broker and the section 3(a)(5) definition of dealer. These municipal securities dealers are required to register with the Commission under section 15B and file an application for registration on Form MSD. *See* Rule 15Ba2–1.

[15] In 1975 the Commission adopted Form BD as a uniform form in order to enable broker-dealer applicants to file a single form for registration as a broker-dealer with the Commission, the states, and the self-regulatory organizations. *See* Securities Exchange Act Rel. No. 11424 (May 26, 1975), 40 FR 30634. Although the amendments facilitated the use of a single form, duplicative filing requirements remained. *See* Securities Exchange Act Rel. No. 20020 (July 28, 1983), 48 FR 36115. In 1983 the Commission amended Form BD to reduce those duplicative registration requirements. In addition, the revisions made Form BD and Form BDW, the form used for broker-dealer withdrawal from registration, compatible with the NASD's Central Registration Depository ("CRD"). The CRD provides a computer database that maintains current registration information for every broker-dealer that is a member of the NASD.

[16] For example, section 15C of the Exchange Act incorporates by reference the provisions of section 15(b) of the Exchange Act to permit the Commission to deny an applicant's registration if it finds that the applicant has been convicted of committing certain crimes, such as bribery, perjury or burglary within the preceding 10 years.

required to complete all Items on the Form.

At present, Rule 15b3–1(b) requires registered broker-dealers to amend their Form BDs promptly whenever information contained in the forms becomes inaccurate.[17] The proposed rules do not contain a similar provision because such amendments are deemed reports under the Act, and the Act vests the Treasury with the authority to adopt reporting requirements. However, the Treasury has proposed a rule requiring that Form BD be amended when the Form as filed becomes inaccurate.[18]

3. Rule 15Ca2–2: Statement of Financial Condition to be Filed with Application for Registration as a Government Securities Broker or Government Securities Dealer

Rule 15Ca2–2 as proposed required a government securities broker-dealer applying for registration to submit as part of its application on Form BD a statement of financial condition and other information concerning the applicant's financial resources. For example, the Rule required (1) disclosure of the applicant's assets, liabilities, and net worth, (2) a schedule listing the applicant's securities and, if readily marketable, their market value, (3) a computation made in accordance with the capital requirements to be established by the Secretary of the Treasury,[19] (4) a statement describing the nature and source of capital and representing that such amount of capital has been contributed to and will continue to be devoted to the business, (5) a statement concerning establishment and maintenance of the facilities and financing required for the operation of the business, and (6) a statement for the ensuing year of operations (a) describing the arrangements made for obtaining the funds necessary to operate the business, (b) setting forth the anticipated expenses for that year, and (c) providing information as to any arrangements which have been made to obtain additional financing if it becomes necessary. The purpose of the rule is to allow the Commission to determine whether the applicant has the required amount of capital and the capacity to operate as a going concern.

As proposed, Rule 15Ca2–2 required an applicant to furnish as part of its statement of financial condition a schedule of its securities and if readily marketable, their market value. Paragraph (e) of the Rule exempted firms that had been in operation for one or more years prior to July 25, 1987 from this requirement. Paragraph (e) also relieved established firms from providing a detailed description of the firm's personnel, physical facilities, and arrangements for and uses of its funds, provided that a firm represented that it had been acting as a government securities broker or dealer as of a date prior to July 25, 1986.

Upon review, the Commission has determined to relieve all applicants from filing detailed descriptions of its personel, physical facilities, maintenance and preservation of books and records, and supervision procedures. The Rule therefore does not require any applicant to file with its general representations concerning its facilities and financing a detailed statement describing arrangements in these areas. The Commission believes that generally this information is either disclosed on Form BD or is readily ascertainable by a self-regulatory organization when it conducts a pre-membership interview, and therefore these requirements place an unnecessary burden on applicants. The Rule also contains an exception for government securities broker-dealers that were in operation for a year prior to July 25, 1987 from filing a schedule of securities and a description of arrangements for and uses of its funds for the first year of operations after registration.

The Commission received two comment letters discussing proposed Rule 15Ca2–2. One commentator[20] noted that the proposed language requiring the filing of a statement of financial condition "as of a date no more than 30 days after the date on which such statement is filed" should be clarified because it suggests that the statement of financial condition must be dated 30 days after it is filed. The Commission agrees that the language is confusing and accordingly has modified the Rule to require the balance sheet to be dated no more than 30 days before the application is filed.

Another commentator[21] suggested that the Commission reconsider the proposed exemptions concerning the filing of detailed statements for those government securities broker-dealers in operation for one or more years. The commentator suggested that the information provided in the representations may be helpful in determining the current financial operating ability of an established firm. The Commission believes, however, that the information provided by the representations is unnecessary because it is already available from other sources or readily ascertainable. Accordingly, the Commission has not adopted the commentator's suggestion.

4. Rule 15Ca2–3: Registration of Successors

The Commission is adopting a successor rule for government securities broker-dealers similar to that already applicable to broker-dealers registered under section 15(b) of the Act.[22] The rule is intended to provide for a smooth transition when one government securities broker-dealer succeeds to the business of another government securities broker-dealer that is registered pursuant to section 15C(a) of the Act. In general, a broker-dealer succeeds to and continues the business of a predecessor broker-dealer when the successor broker-dealer assumes substantially all the assets and liabilities of the predecessor[23] and therefore closely resembles the predecessor registered government securities broker-dealer.

Paragraph (a) of the Rule applies generally to instances where a new legal entity succeeds to the business of a registered government securities broker-dealer. The successor is allowed to operate under the registration of the predecessor for 75 days if it files its own complete application for registration on Form BD within 30 days of the date of the succession.[24] Paragraph (b) provides procedures for certain changes in legal status that involve the legal creation of a new entity but no practical change in the broker-dealer—changes in date or state of incorporation, form of organization,[25] or change in the

[17] *See also* Rules 15Ba2–2(c) and 15Ba2–1(b).

[18] 17 CFR 400.5.

[19] Under the Act, the Secretary of the Treasury is to establish capital adequacy requirements for government securities broker-dealers. The proposed rule, therefore, differs from Rule 15b1–2 because it requires information concerning compliance with capital standards as established by the Secretary of the Treasury rather than the Commission.

[20] Letter from Marjorie E. Gross, General Counsel and Secretary, Irving Securities to Jonathan G. Katz, Secretary, SEC, dated March 17, 1987.

[21] Letter from Brian P. Smith, Senior Vice President for Regulatory Affairs and Assistant to the President, United States League of Savings Institutions, to Jonathan G. Katz, Secretary, SEC, dated March 18, 1987.

[22] *See* Rule 15b1–3 and Rule 15Ba2–4. Similar successor rules also apply to investment advisers. 17 CFR 275.203–1 (c) and (d). For a more complete discussion of the successor rule *see* 1985 Release, at 16.

[23] The successor rule cannot be used by a government securities broker-dealer to eliminate a substantial liability. *See* 1985 Release, at 17.

[24] The predecessor must file a Form BDW indicating it is withdrawing from business.

[25] Rule 15b1–3(b) as revised in 1986 contained a typographical error causing the phrase "form of

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composition of a partnership. In these instances, paragraph (b) allows the new entity simply to amend the predecessor's Form BD within 30 days of the date of the succession. The amendment would include page 1 of Form BD (the execution page), page 2 (indicating that the applicant is a successor), and any other pages necessary to reflect changes in the successor government securities broker-dealer. In addition, the successor would be required to comply with Rule 15Ca2–1 and file a statement of financial condition described in Rule 15Ca2–1(a).

5. Rule 15Ca2–4: Registration as Fiduciaries

The Commission is adopting for government securities broker-dealers substantially the same rule governing the registration of fiduciaries that applies to registered broker-dealers.[26] The rule permits a duly appointed fiduciary to assume immediate responsibility for the operation of a government securities broker-dealer's business. Under the rule, the registration of a government securities broker-dealer is deemed to be the registration of any executor, guardian, conservator, assignee for the benefit of creditors, receiver, trustee in insolvency or bankruptcy, or other fiduciary appointed or qualified by order, judgment or decree of a court of competent jurisdiction. This enables the fiduciary to continue the business of a registered government securities broker or dealer, provided that the fiduciary files with the Commission, within 30 days after entering upon the performance of his duties, a statement setting forth substantially the same information required by Form BD.

6. Rule 15Ca2–5: Consent to Service of Process To Be Furnished by Non-Resident Government Securities Brokers or Government Securities Dealers and by Non-Resident General Partners or Managing Agents of Government Securities Brokers or Government Securities Dealers

The Commission is adopting a rule governing service of process for non-resident government securities broker-dealers that is similar to that applied to non-resident registered broker-dealers.[27] Generally, this rule provides that every non-resident government securities broker-dealer applying for registration pursuant to section 15C(a)(1)(A) must provide the Commission with a written irrevocable consent and power of attorney. This consent and power of attorney designates the Commission as an agent upon whom may be served any papers in connection with actions arising from the government securities broker or dealer's government securities business that are subject to the jurisdiction of the United States and that accrue while the government securities broker or dealer is registered with the Commission.[28] The Rule requires that the applicant stipulate to be bound by the service of process upon the Commission as if personal service had been made. Paragraph (b)(1) of the Rule provides that registered government securities broker-dealers that become non-residents must file their consent within 30 days.

Pursuant to Rule 15b1–5, the Commission prescribed a series of forms to be used by non-resident broker-dealers.[29] The Commission is not prescribing specific forms under Rule 15Ca2–5; nevertheless, an appropriate form to satisfy the requirements of the Rule would be one of those used for Rule 15b1–5 that is modified to apply to a government securities broker-dealer registered pursuant to section 15C(a)(1)(A).[30]

Unlike Rule 15b1–5, proposed Rule 15Ca2–5 does not grant registered government securities brokers or dealers or those whose registrations are pending when the Rule becomes effective additional time in which to file the consents and powers of attorney.[31] Non-resident government securities brokers or dealers that may have already registered would have done so pursuant to section 15(b) of the Exchange Act and the rules thereunder. The consent and power of attorney would have been filed in connection with their original application for registration. Therefore, the Commission believes that these provisions are unnecessary in the proposed rule.

7. Rule 15Cc1–1: Withdrawal From Registration

Proposed Rule 15Cc1–1 provides that, in order for a government securities broker-dealer to withdraw its registration under section 15C of the Exchange Act, it must file notice of withdrawal from registration with the Commission on Form BDW.[32] Registered broker-dealers withdrawing from registration under other provisions of the Exchange Act are required to file the same notice.[33]

II. Revisions to Form BD[34]

The Commission is modifying Form BD for use as a registration form by government securities broker-dealers by adding a new Item 12. New Item 12 requires an applicant to indicate whether it is applying for or continuing its registration solely as a government securities broker or dealer. The new Item 12 will enable the Commission, regulatory authorities, and the public to identify government securities brokers or dealers registering pursuant to section 15C(a)(1)(A). In addition, this identification will facilitate the Commission's determination of the broker-dealer's compliance with other applicable requirements.[35]

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organization" to read as "form or organization." The Commission intended Rule 15b1–3(b) to refer to "form *of* organization", the Commission is amending the Rule to correct this error. See *infra* text at n. 41.

[26] *See* Rules 15b1–4 and 15Ba2–5 concerning broker-dealers registered pursuant to section 15(b) and section 15B, respectively.

[27] *See* Rule 15b1–5.

[28] Under the rule, the government securities broker-dealer's consent and power of attorney relate to causes of action that accrue between the time the government securities broker or dealer becomes registered and when its registration is cancelled or revoked or when a notice to withdraw from registration (Form BDW) becomes effective. *See* Rule 15Ca2–5(a). The cut-off date in Rule 15Ca2–5 differs slightly from that in Rule 15b1–5, which relates to causes of action accruing up until the Commission receives a broker-dealer's Form BDW. Because a broker-dealer's withdrawal does not become effective for 60 days from the date the Form BDW is filed, or a longer time if proceedings are instituted pursuant to section 15C, the Commission believes that Rule 15Ca2–5 should cover causes of action that may accrue between the time a government securities broker-dealer files its Form BDW and the date that notice becomes effective.

[29] *See* Forms 7–M, 8–M, 9–M, and 10–M.

[30] Those modifications would include a statement that the applicant's registration is effective pursuant to section 15C and that the designation and irrevocable power of appointment relate to causes of action that accrue until the broker-dealer's withdrawal becomes effective.

[31] *See* Rule 15b1–5(b) (1) and (2).

[32] Form BDW must be filed only if an entity is completely ceasing its securities business; if an entity is a registered broker-dealer and is ceasing its government securities activities but continuing other securities activities, it must file a notice on Form BD to reflect this change. *See* Rule 15Ca1–1.

[33] *See* Rule 15b6–1 and Rule 15Bc3–1.

[34] In addition to the new Items described below, the Commission is amending the instructions page to describe the procedure for registering with the Commission as a government securities broker-dealer and for registered broker-dealers to provide notice of their government securities activities.

[35] Under the Act, government securities brokers and dealers may be subject to different regulations than broker-dealers registered under section 15(b). For example, a firm that conducts a business solely in government securities, and therefore registers with the Commission pursuant to section 15C(a)(1)(A), would not be a member of the Securities Investor Protection Corporation ("SIPC"). *See* S. Rep. No. 426, 99th Cong., 2d Sess. 25 (1986). In addition, under section 15C(b) the Secretary of the Treasury may adopt for government securities broker-dealers rules governing their books and records and capital requirements that may differ from the rules applicable to broker-dealers

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The Commission also is revising Form BD so that broker-dealers registered or applying for registration pursuant to section 15 and 15B may use it to notify the Commission of their government securities activities.[36] These broker-dealers would file notice on Form BD by answering "yes" to new Item 13A, indicating they are acting as a government securities broker or dealer. After the effective date of the Act, broker-dealers registered pursuant to sections 15(b) and 15B that have conducted a government securities business also must notify the Commission when they cease their government securities activities.[37] Under the revised form, notice would be filed by answering "yes" to Item 13B, indicating they are ceasing their government securities activities.

Broker-dealers registered with the Commission will have until July 25, 1987, to file this notice with the Commission. Registered broker-dealers that become government securities brokers or dealers after that date will be required pursuant to Rule 15Ca1–1 to notify the Commission on the date they begin acting as a government securities dealer and within thirty days after ceasing these activities.

Depending on their volume of government securities business, broker-dealers filing notice of government securities activities may also have to amend their Form BD to reflect a change in Item 10. Item 10 requires the applicant to check boxes indicating the types of business it is or will be engaged in if a type of business accounts for 10% or more of the applicant's annual revenue from the securities or advisory business. Current Item 10 provides a box only for government securities dealer activities. The Commission is adding an additional box for government securities brokers.

III. Revisions to Rule 15b2–2: Inspection of Newly Registered Brokers and Dealers

Section 15(b)(2)(C) requires the Commission or the responsible self-regulatory organization to conduct an inspection of a broker-dealer [38] within six months [39] of granting its registration in order to determine whether the broker-dealer is operating in conformity with the federal securities laws. Pursuant to this requirement the Commission adopted Rule 15b2–2. The Commission is adopting revisions to Rule 15b2–2 to provide for the inspection of newly registered government securities broker-dealers. The Rule requires the responsible self-regulatory organization to conduct inspections of newly registered broker-dealers within six months to a year [40] to determine compliance with "applicable financial responsibility rules." The revisions clarify the applicability of the Rule to government securities broker-dealers registered pursuant to section 15C(a)(1)(A) and define "applicable financial responsibility rules" to include any rule adopted by the Secretary of the Treasury pursuant to section 15C(b)(1).

IV. Technical Amendments to Rule 15b1–3 and Description of Form BDW

In 1986 the Commission amended Rule 15b1–3, the broker-dealers successor rule, to provide for succession by amendment.[41] As adopted, the Rule contains a typographical error causing the phrase "form of organization" to be read as "form or organization." Because the Commission intended Rule 15b1–3(b) to refer to form of organization, the Commission is adopting a technical amendment to correct the error.

Rule 15Bc3–1 requires certain municipal securities dealers to withdraw from registration by filing Form BDW. Similarly, Rule 15Cc1–1 requires government securities brokers and government securities dealers to withdraw from registration by filing Form BDW. The Form is not published in the Code of Federal Regulations ("CFR"), but the CFR contains a description of Form BDW.[42] The current description of the Form contains references to broker-dealers registered under Section 15 and the rules thereunder. In view of Rules 15Bc3–1 and 15Cc1–1, the Commission is modifying the description of Form BDW to include its use by government securities brokers and government securities dealers. Accordingly, section 249.501(a) will refer to broker-dealers withdrawing from registration pursuant to Rules 15Bc3–1, 15Cc1–1 and broker-dealers registered pursuant to Section 15B or 15C.

Section 553(b) of the Administrative Procedure Act (5 U.S.C. 553(b)) provides that

> [e]xcept when notice or hearing is required by statute, this subsection does not apply . . .
>
> (B) When the agency for good cause finds (and incorporate the finding and a brief statement of reasons therefor in the rules issued) that notice and public procedure thereon are impracticable, unnecessary, or contrary to the public interest.

The Commission views the amendments to Rule 15b1–3 and the modifications to Form BDW's description as solely technical in nature. In addition, the substance of these changes—correction of "form of organization", and use of Form BDW—were noticed in the release proposing the amendments. Hence, the Commission finds that notice and public procedure thereon are unnecessary. Accordingly, the Commission is adopting these changes without having previously published them for comment. Nevertheless, pursuant to section 553(e) and the Commission's rules of practice, interested persons have the right to petition for the issuance, amendment, or repeal of a rule.

V. Competition Findings, Effective Date, and Statutory Basis

Section 23(a)(2) of the Exchange Act requires the Commission, in adopting rules under that Act, to consider the anti-competitive effect of such rules, if any, and to balance any impact against the regulatory benefits gained in terms of furthering the purposes of the Exchange Act. The Commission has considered proposed Rules 15Ca1–1 through 15Cc1–1, Rule 15b2–2, Rule 15b1–3, and revisions to Form BD and Form BDW's description in light of the standards cited in section 23(a)(2) and believes that adopting the rules and form revisions will not impose any burden on competition not necessary or appropriate in futherance of the Exchange Act. Indeed, the Commission believes that the rules will reduce regulatory disparities between registered broker-dealers doing a government securities business and previously unregistered government securities broker-dealers by imposing upon all broker-dealers similar registration requirements.

Pursuant to the Administrative Procedure Act, 5 U.S.C. 553(b), interested persons were given an opportunity to submit written views of the proposals. After consideration of the

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generally. Finally, under section 15A(f) of the Act the NASD's rulemaking authority over transactions by government securities broker-dealers in government securities is generally limited to examining for and enforcing compliance with applicable provisions of the Act and the rules thereunder. The NASD, however, is specifically empowered to adopt rules to prohibit fraudulent, misleading, deceptive, and false advertising.

[36] As adopted the language of Item 13A has been changed to clarify that it applies to brokers and dealers registered under sections 15 and 15B.

[37] Section 15C(a)(1)(B).

[38] Government securities broker-dealers that are required to register pursuant to section 15C(a) are broker-dealers, and are therefore subject to the Rule.

[39] The Commission may delay inspection of any class of brokers or dealers for up to six months. *See* section 15(b)(2)(C).

[40] Rule 15b2–2 (c) and (d).

[41] *See* 1985 Release, at 16.

[42] 17 CFR 249.501(a).

relevant matters, the rules are being adopted substantially as proposed. Rule 15Ca2–2 as described previously is being modified at the suggestion of a commentator. The rule as modified provides that the statement of financial condition must be dated 30 days before the date on which the Form BD has been filed.

Pursuant to the Government Securities Act of 1986, Rules 15Ca1–1 through Rule 15Cc1–1 and the amendments to rule 15b2–2, Rule 15b1–3 and the changes to § 240.501(a) will become effective as final rules on July 25, 1987.

Section 553(d) of the Administrative Procedure Act, 5 U.S.C. 553(d), provides that the "required publication or service of a substantive rule shall be made not less than 30 days before its effective date except . . . as otherwise provided by the agency for good cause found and published with the rule." Because of the short time in which unregistered government securities broker-dealers have to register and registered broker-dealers have to file notice of their government securities activities, the Commission believes that sufficient cause exists for the proposed revisions to Form BD to become effective within a week of the date of publication in the **Federal Register**. Prompt effectiveness of the amended Form BD will facilitate the registration of government securities broker-dealers required to register under the statute so that these broker-dealers may be in compliance with the requirements of the Act without a disruption in their operations on the date the Act becomes effective.

VI. Regulatory Flexibility Act Considerations

Pursuant to 5 U.S.C. 605(b), the Chairman certified that the revisions to Rule 15b2–2 if adopted will not have a significant economic impact on a substantial number of small entitities. A summary of the Certification was published with the proposal. No comments were received on the Certification.

The Commission has prepared an Initial Regulatory Flexibility Analysis ("IRFA") and a Final Regulatory Flexibility Analysis ("Analysis") in accordance with 5 U.S.C. 603 and 604 respectively regarding proposed rules 15Ca1–1 through 15Cc1–1 and revisions to Form BD. No comments were received on the Commission's IRFA although one commentator raised issues involving considerations addressed by the Regulatory Flexibility Act.

The intent of and the possible costs and benefits of each rule proposal is also discussed in the Analysis. The Analysis notes that the objective of the rules is to implement the provisions of the Act. The IRFA utilized the Commission's Rule 0–10 under the Exchange Act; which defines small entities when used in reference to a broker-dealer. The Commission believes that the proposed rules will have a significant economic impact on a substantial number of small entities. The impact, however, has been minimized by requiring government securities broker-dealers to register using the same form as the form used for registration of other broker-dealers.

A copy of the Final Regulatory Flexibility Analysis may be obtained by contacting Lynne G. Masters, Esq., Division of Market Regulation, Securities and Exchange Commission, Washington, DC 20549, (202) 272–2848.

VII. Statutory Authority

Pursuant to the Securities Exchange Act of 1934 and particularly sections 3, 15(b), 15C(a), and 23 thereof, 15 U.S.C. 78c, 78*o*(b), 78*o*–5(a), and 78w, the Commission adopts §§ 240. 15Ca1–1, 240.15Ca2–1, 240.15Ca2–2, 240.15Ca2–3, 240.15Ca2–4, 240.15Ca2–5, 240.15Cc1–1, and amends § 240.15b1–3, 240.15b2–2, Form BD, § 249.501, Form BDW, § 249.501(a) of Title 17 of the Code of Federal Regulations, in the manner set forth below.

List of Subjects in 17 CFR Part 240

Brokers, Dealers, Government Securities brokers and government securities dealers.

VIII. Text of Amendments

In accordance with the foregoing, 17 CFR is amended as follows:

PART 240—GENERAL RULES AND REGULATIONS SECURITIES EXCHANGE ACT OF 1934

1. The authority citation for Part 240 is amended by adding the following citations:

Authority: Sec. 23, 48 Stat. 901 as amended 15 U.S.C. 78w * * *

Section 240.15b1–3 also issued under sec. 15, 17; 15 U.S.C. 78*o* 78q; * * *

Section 240.15b2–2 also issued under secs. 3, 15; 15 U.S.C. 78c, 78*o*; * * *

Sections 240.15Ca1–1, 240.15Ca2–1, 240.15Ca2–2, 240.15Ca2–3, 240.15Ca2–4, 240.15Ca2–5, 240.15Cc1–1 also issued under secs. 3, 15C; 15 U.S.C. 78c, 78*o*–5.

2. § 240.15b1–3 is amended by revising paragraph (b) as follows:

§ 240.15b1–3. Registration of successor to registered broker-dealer.

(a) * * * *

(b) A Form BD filed by a broker-dealer that is not registered when such form is filed and which succeeds to and continues the business of a predecessor registered broker-dealer, shall be deemed an application for registration filed by the predecessor and adopted by the sucessor, even though designated as an amendment, if filed within 30 days of the succession and the succession is based on a charge in the predecessor's date or state of incorporation, form of organization or change in composition of a partnership and the amendment is filed to reflect these changes.

3. § 240.15b2–2 is amended by revising paragraphs (a) and (b) as follows:

§ 240.15b2–2. Inspection of newly registered brokers and dealers.

(a) *Definition.* For the purpose of this section the term "applicable financial responsibility rules" shall include: (1) Any rule adopted by the Commission pursuant to sections 8, 15(c)(3), 17(a), or 17(e)(1)(A) of the Act; (2) any rule adopted by the Commission relating to hypothecation or lending of customer securities; (3) any other rule adopted by the Commission relating to the protection of funds or securities; and (4) any rule adopted by the Secretary of the Treasury pursuant to section 15C(b)(1) of the Act.

(b) Each self-regulatory organization that has responsibility for examining a broker or dealer member (including members that are government securities brokers or government securities dealers registered pursuant to section 15C(a)(1)(A) of the Act) for compliance with applicable financial responsibility rules is authorized and directed to conduct an inspection of the member, within six months of the member's registration with the Commission, to determine whether the member is operating in conformity with applicable financial responsibility rules.

* * * * *

4. By adding § § 240.15Ca1–1, 240.15Ca2–1, 240.15Ca2–2, 240.15Ca2–3, 240.15Ca2–4, 240.15Ca2–5, and 240.15Cc1–1 (after § 240.15Bc7–1 in the CFR) as follows:

Registration of Government Securities Brokers and Government Securities Dealers

Sec.

Sec.

Registration of Government Securities Brokers and Government Securities Dealers

§ 240.15Ca1–1 Notice of government securities broker-dealer activities.

(a) Every government securities broker or government securities dealer that is a broker or dealer registered pursuant to sections 15 or 15B of the Act (other than a financial institution as defined in section 3(a)(46) of the Act) shall file with the Commission written notice on Form BD (§ 249.501 of this chapter) in accordance with the instructions contained therein that it is a government securities broker or government securities dealer. After July 25, 1987, every broker or dealer subject to this paragraph shall file notice that it is a government securities broker or government securities dealer prior to or on the date it begins acting as a government securities broker or government securities dealer.

(b) Every government securities broker or government securities dealer required to file notice under paragraph (a) of this section shall file with the Commission written notice on Form BD in accordance with the instructions contained therein when it ceases to be a government securities broker or government securities dealer. Notice shall be filed within 30 days after the date the broker or dealer has ceased acting as a government securities broker or a government securities dealer.

§ 240.15Ca2–1 Application for registration as a government securities broker or government securities dealer.

(a) An application for registration pursuant to section 15C(a)(1)(A) of the Act of a government securities broker or a government securities dealer shall be filed with the Commission on Form BD (§ 249.501 of this chapter) in accordance with the instructions contained therein.

(b) Every amendment to Form BD filed by a government securities broker or government securities dealer registered pursuant to section 15C(a)(1)(A) of the Act shall constitute a "report" within the meaning of sections 15, 15C, and 32(a) of the Act.

§ 240.15Ca2–2 Statement of financial condition to be filed with application for registration as a government securities broker or government securities dealer.

(a) Every government securities broker or government securities dealer who files an application for registration on Form BD pursuant to Rule 15Ca2–1 shall file with such application a statement of financial condition as of a date no more than 30 days prior to the date on which such statement is filed and as of a later date reflecting any material change, if there has been a material change. Such statement of financial condition shall

(1) Be in such detail as will disclose the nature and amount of assets and liabilities and the net worth of such government securities broker or government securities dealer;

(2) Contain a schedule listing the securities of such government securities broker or government securities dealer or in which such government securities broker or government securities dealer has an interest and, if a ready market for the security exists, valuing the security at the market price with an indication of the market on which such valuation is made, and

(3) Contain a computation made in accordance with the capital requirements applicable to the business of such government securities broker or government securities dealer under the capital rules established by the Secretary of the Treasury.

For purposes of this paragraph (a), if the government securities broker or government securities dealer is a sole proprietorship, the personal assets and liabilities of such government securities broker or government securities dealer shall be included in the computations of its net worth and the Treasury capital requirements pursuant to clauses (1) and (2) hereof in testing compliance with the applicable capital rules.

(b) The schedule of securities furnished as a part of such statement of financial condition shall be deemed confidential if bound separately from the balance of such statement, except that it shall be available for official use by any official or employee of the United States or any state, by any national securities exchange or national securities association of which the person filing such statement is a member, or with whom the person is seeking to be associated, and by any other person to whom the Commission authorizes disclosure of such information as being in the public interest.

(c) Every government securities broker or government securities dealer who files an application for registration on Form BD pursuant to Rule 15Ca2–1 shall file with such application a statement that shall include the following:

(1) A representation that the capital of such government securities broker or government securities dealer has been contributed, and that such amount of capital will continue to be devoted to its business as government securities broker or government securities dealer, and a description of the nature and source of such capital;

(2) A representation that adequate arrangements have been made by such government securities broker or government securities dealer for the establishment and maintenance of adequate facilities and financing required for the carrying on of its business as a government securities broker or government securities dealer, and an undertaking that such government securities broker or government securities dealer will continue to maintain facilities and financing adequate for its business; and

(3) A statement describing the arrangements made for the obtaining of the funds required for the operation of its business for the first year of operations after registration, and the uses to which such funds will be put, stating in appropriate detail the expenses expected to be incurred for such first year of operations after registration; and setting forth the arrangements made, if any, for the obtaining of additional funds if such funds should become necessary.

(d) Attached to each of the statements required by this rule shall be an oath or affirmation that the information contained therein is true and correct to the best knowledge and belief of the person making such oath or affirmation. The oath or affirmation shall be made before a person duly authorized to administer such oath or affirmation. If the government securities broker or government securities dealer is a sole proprietorship, the oath or affirmation shall be made by the proprietor; if a partnership, by a general partner; if a corporation, by a duly authorized officer.

(e)(1) The provisions of this rule shall not apply to a government securities broker or government securities dealer succeeding to and continuing the business of a registered government securities broker or government securities dealer, provided that such successor government securities broker or government securities dealer files with the application on Form BD a

statement of financial condition as specified in paragraph (a) of this section.

(2) The information required pursuant to paragraphs (a)(2) and (c)(3) of this rule shall not apply to a government securities broker or government securities dealer that has been acting continuously as a government securities broker or government securities dealer for one or more years prior to July 25, 1987, and who files with its application for registration a representation that it has been acting as a government securities broker or dealer as of a date prior to July 25, 1986.

(3) The Commission may, upon written request or upon its own motion, exempt from the provisions of this rule any government securities broker or government securities dealer, either unconditionally or on specified terms or conditions, as it deems necessary or appropriate in the public interest or for the protection of investors.

(4) The statement of financial condition required by this rule shall be deemed a part of the application for registration within the meaning of the provisions of sections 15, 15C, and 32(a) of the Act authorizing the Commission to prescribe the form of application for registration of a government securities broker or government securities dealer and prohibiting the filing of a false application.

§ 240.15Ca2-3 Registration of successor to registered government securities broker or government securities dealer.

(a) If a government securities broker or government securities dealer succeeds to and continues the business of a government securities broker or government securities dealer registered pursuant to section 15C(a)(1)(A) of the Act, the registration of the predecessor shall be deemed to remain effective as the registration of the successor for a period of 75 days after such succession, provided that an application for registration on Form BD (§ 249.501 of this chapter) is filed by such successor within 30 days after such succession.

(b) Notwithstanding paragraph (a) of this rule, if a government securities broker or government securities dealer succeeds to and continues the business of a predecessor government securities broker or government securities dealer that is registered pursuant to section 15C(a)(1)(A) of the Act, and the succession is based solely on a change in the predecessor's date or state of incorporation, form of organization, or change in composition of a partnership, the registration of the successor may be effected by amending within 30 days of the succession the Form BD of the predecessor to reflect these changes. This amendment shall be deemed an application for registration filed by the predecessor and adopted by the successor. This successor government securities broker or government securities dealer also must file with its Form BD amendment the statements of financial condition specified in paragraph (a) of Rule 15Ca2-2.

§ 240.15Ca2-4 Registration of fiduciaries.

The registration of a government securities broker or government securities dealer pursuant to section 15C of the Act shall be deemed to be the registration of any executor, administrator, guardian, conservator, assignee for the benefit of creditors, receiver, trustee in insolvency or bankruptcy, or other fiduciary, appointed or qualified by order, judgment, or decree of a court of competent jurisdiction to continue the business of such registered government securities broker or government securities dealer, provided that such fiduciary files with the Commission, no more than 30 days after entering upon the performance of its duties, a statement setting forth as to such fiduciary substantially the information required by Form BD.

§ 240.15Ca2-5 Consent to service of process to be furnished by non-resident government securities brokers or government securities dealers and by non-resident general partners or managing agents of government securities brokers or government securities dealers.

(a) Each non-resident government securities broker or government securities dealer applying for registration pursuant to section 15C(a)(1)(A) of the Act, each non-resident general partner of a government securities broker or government securities dealer partnership that is applying for such registration, and each non-resident managing agent of any other unincorporated government securities broker or government securities dealer that is applying for registration, shall furnish to the Commission, in a form acceptable to the Commission, a written irrevocable consent and power of attorney that—

(1) Designates the Securities and Exchange Commission as an agent of such government securities broker or government securities dealer upon whom may be served any process, pleadings, or other papers in any civil suit or action brought in any appropriate court in any place subject to the jurisdiction of the United States, with respect to any cause of action,

(i) That accrues during the period beginning when such government securities broker or government securities dealer becomes registered pursuant to section 15C(a)(1)(A) of the Act and ending either when such registration is cancelled or revoked, or when a notice filed by such government securities broker or government securities dealer to withdraw from such registration becomes effective, whichever is earlier,

(ii) That arises out of any activity, in any place subject to the jurisdiction of the United States, occurring in connection with the conduct of the business of such government securities broker or government securities dealer, and

(iii) That is founded, directly or indirectly, upon the Securities Act of 1933, the Securities Exchange Act of 1934, the Trust Indenture Act of 1939, the Investment Company Act of 1940, the Investment Advisers Act of 1940, or any rule or regulation under any of those Acts, and

(2) Stipulates and agrees that any such civil suit or action may be commenced against such government securities broker or government securities dealer by the service of process upon the Commission and the forwarding of a copy thereof as provided in paragraph (c) of this section and that the service as aforesaid of any such process, pleadings, or other papers upon the Commission shall be taken and held in all courts to be as valid and binding as if due process service thereof had been made.

(b) Each government securities broker or government securities dealer registered pursuant to section 15C(a)(1)(A) of the Act that becomes a non-resident government securities broker or government securities dealer, and each general partner or managing agent of an unincorporated government securities broker or government securities dealer registered or applying for registration pursuant to section 15C(a)(1)(A) of the Act who becomes a non-resident after such registration or filing of an application for such registration, shall furnish such consent and power of attorney no more than 30 days thereafter.

(c) Service of any process, pleadings, or other papers on the Commission under this rule shall be made by delivering the requisite number of copies thereof to the Secretary of the Commission or to such other person as the Commission may authorize to act in its behalf. Whenever any process, pleadings, or other papers as aforesaid are served upon the Commission, it shall promptly forward a copy thereof by registered or certified mail to the appropriate defendants at their last

address of record filed with the Commission; but any failure by the Commission to forward such a copy shall have no effect on the validity of the service made upon the Commission. The Commission shall be furnished a sufficient number of copies for such purpose, and one copy for its file.

(d) For purposes of this rule the following definitions shall apply:

(1) The term "managing agent" shall mean any person, including a trustee, who directs or manages or who participates in the directing or managing of the affairs of any unincorporated organization or association that is not a partnership.

(2) The term "non-resident government securities broker or government securities dealer" shall mean (i) in the case of an individual, one who is domiciled in or has his principal place of business in any place not subject to the jurisdiction of the United States, (ii) in the case of a corporation, one incorporated in or having its principal place of business in any place not subject to the jurisdiction of the United States; (iii) in the case of a partnership or other unincorporated organization or association, one having its principal place of business in any place not subject to the jurisdiction of the United States.

(3) A general partner or managing agent of a government securities broker or government securities dealer shall be deemed to be a non-resident if he is domiciled in any place not subject to the jurisdiction of the United States.

§ 240.15Cc1-1 Withdrawal from registration.

(a) Notice of withdrawal from registration as a government securities broker or government securities dealer pursuant to section 15C(a)(1)(A) of the Act shall be filed on Form BDW in accordance with the instructions contained therein.

(b) Except as hereinafter provided, a notice to withdraw from registration filed by a government securities broker or government securities dealer shall become effective for all matters on the sixtieth day after the filing thereof with the Commission or within such shorter period of time as the Commission shall determine. If a notice to withdraw from registration is filed with the Commission at any time subsequent to the date of the issuance of a Commission order instituting proceedings pursuant to section 15C(c) to censure, place limitations on the activities, functions or operations of, or suspend or revoke the registration of, such government securities broker or government securities dealer or if, before the effective date of the notice of withdrawal pursuant to this paragraph (b), the Commission institutes such a proceeding or a proceeding to impose terms or conditions upon such withdrawal, the notice of withdrawal shall not become effective pursuant to this paragraph (b) except at such time and upon such terms and conditions as the Commission deems necessary or appropriate in the public interest or for the protection of investors.

(c) Every notice of withdrawal filed pursuant to this section shall constitute a "report" within the meaning of sections 15, 15C, and 32(a) of the Act.

PART 249—FORMS, SECURITIES EXCHANGE ACT OF 1934

5. The authority citation for Part 249 continues to read, in part as follows:

Authority: The Securities Exchange Act of 1934, 15 U.S.C. 78a. *et seq.*

§ 249.501 [Amended]

6. FORM BD (§ 249.501) is amended as follows: Revisions to the Instructions page, New Items 12 and 13 added, Item 10 amended. (FORM BD does not appear in the Code of Federal Regulations. Only the modified pages of Form BD are published.)

U.S. Securities and Exchange Commission

Special Instructions for Completing or Amending Form BD, Uniform Application for Registration as a Broker-Dealer, With the U.S. Securities and Exchange Commission

How and Where to File

File Form BD and its schedules in triplicate with the Securities and Exchange Commission, Washington, DC 20549. Manually sign and notarize all three copies on the execution page. Keep a copy. Duplicated copies may be filed if manually signed. Copies must be made on standard size white paper, in the same size as the original.

Form BD Initial filings—Required Statements

Rule 15b1–2 and Rule 15Ca2–2 require filing with each initial Form BD application two copies of special statements of financial condition, capital contribution, facilities, and first-year funding. (See Securities Exchange Act Release No. 9594 (May 12, 1972); Securities Exchange Act Release No. *24369* (April *21*, 1987).)

Foreign Broker-Dealers

Rule 15b1–5 and Rule 15Ca2–1 require non-resident brokers or dealers applying for registration to provide the Commission with a consent and power of attorney. This consent and power of attorney designate the Commission as agent upon whom may be served any papers in connection with actions arising from the broker-dealer's business that are subject to the jurisdiction of the United States and that accrue while the broker or dealer is registered with the Commission. This consent and power of attorney is in addition to and separate from the consent to service of process provided on Form BD. Non-resident broker-dealers must provide both consents and the power of attorney.

Successor Registration

A broker-dealer that assumes substantially all the assets and liabilities of and continues the business of a predecessor broker-dealer is a successor broker-dealer. Rule 15b1–3 and Rule 15Ca2–3 require a successor broker-dealer to file a new Form BD (or, in special instances, to amend the predecessor broker-dealer's Form BD) within 30 days. The filing must indicate on page 2 of the form that the applicant is a successor and must contain the statement of financial condition required by Rule 15b1–2 or Rule 15Ca2–1 for Form BD successor filings. (See Securities Exchange Act Release No. 22468, (September 26, 1985); Securities Exchange Act Release No. *24369* (April *21*, 1987).)

Prohibited Broker-Dealer Names

United States Code Title 18 section 709 makes a criminal offense of using the words "National," "Federal," "United States," "Reserve," or "Deposit Insurance" in the name of a person or organization in the brokerage business, unless otherwise allowed by Federal law. If these words are used in the applicant's name, include an opinion of counsel with the Form BD explaining why the words are permitted.

Instructions for Form BD

1. Updating

By law, the applicant must update the Form BD information by submitting amendments whenever the information on file changes. Complete all amended pages in full and circle the number of the item being changed.

2. Contact Employee

The individual listed on page 1 as the contact employee must be authorized to receive all compliance information, communications and mailings and be responsible for disseminating it within the applicant's organization.

3. Format

• Attach an execution page (page 1) with original manual signatures to the initial Form BD filing and each amendment to the form or Schedules A through D.
• Type all information.
• Give the broker-dealer and date on each page.
• Use only the Form BD and its Schedules or a reproduction of them.

4. Definitions

• Applicant—The broker-dealer applying on or amending this form.
• Control—The power to direct or cause the direction of the management or policies of a company, whether through ownership of securities, by contract, or otherwise. Any individual or firm that is a director, partner or officer exercising executive responsibility (or having similar status or functions) or that directly or indirectly has the right to vote 25 percent or more of the voting securities or is entitled to 25 percent or more of the profits is presumed to control that company.
• Jurisdiction—Any non-Federal government or regulatory body in the United States, Puerto Rico or Canada.
• Person—An individual, partnership, corporation or other organization.
• Self-regulatory organization—Any national securities or commodities exchange or registered securities association, or registered clearing agency.

5. Schedule A, B and C

Individuals not required to have a Form U–4 (individual registration) in the Central Registration Depository (CRD) who are listed on Schedules A, B or C must attach page 2 of Form U–4. The applicant broker-dealer must appear in Form U–4 Item 19 or 20. Signatures are not required.

6. Schedule D

Schedule D provides additional space for explaining "Yes" answers to Form BD items, but not for continuing Schedules A, B or C. To continue Schedules A, B or C, use copies of the Schedule being continued.

7. Schedule E

Schedule E Amendments to report changes in Branch Offices may be submitted without an execution page.

8. Federal Information Law and Requirements

The Securities Exchange Act of 1934, sections 15, 15C, 17(a) and 23(a), authorize the SEC to collect the information on this form from applicants for registration as a broker or dealer (and persons associated with applicants). The information is used for regulatory purposes, including deciding whether to grant registration. The SEC maintains files of the information on this form and makes it publicly available. Only the Social Security Number information, which aids in identifying the applicant, is voluntary.

9. Government Securities Activities

A. Section 15C of the Exchange Act requires sole government securities broker-dealers to register with the SEC. To do so, use Form BD and answer "yes" to Item 12 if conducting *only* a government securities business.

B. Broker-dealers registered or applicants applying for registration under section 15(b) or 15B of the Exchange Act that conduct (or intend to conduct) a government securities business in addition to other broker-dealer activities (if any) must file a notice on Form BD by answering "yes" to Item 13A.

C. Broker-dealers registered under section 15(d) or 15B of the Exchange Act that cease to conduct a government securities business must file notice when ceasing their activities in government securities. To do so, file an amendment to Form BD and answer "yes" to Item 13B.

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To amend, circle question numbers amended and file with a completed Execution page (Page 1).

Form BD Page 5 Applicant Name: _____ Official Use

Date: _____ Firm CRD No.: _____

10. Check types of business engaged in (or to be engaged in, if not yet active) by applicant. Do not check any category which accounts for or is expected to account for less than 10% of annual revenue from the securities or investment advisory business.

A. Exchange member engaged in exchange commission business	☐	EMC
B. Exchange member engaged in floor activities	☐	EMF
C. Broker or dealer making inter-dealer markets in corporate securities over-the-counter	☐	IDM
D. Broker or dealer retailing corporate securities over-the-counter	☐	BDR
E. Underwriter or selling group participant (corporate securities other than mutual funds)	☐	USG
F. Mutual fund underwriter or sponsor	☐	MFU
G. Mutual fund retailer	☐	MFR
H. 1. U.S. government securities dealer	☐	GSD
2. U.S. government securities broker	☐	GSB
I. Municipal securities dealer	☐	MSD
J. Municipal securities broker	☐	MSB
K. Broker or dealer selling variable life insurance or annuities	☐	VLA
L. Solicitor of savings and loan accounts	☐	SSL
M. Real estate syndicator	☐	RES
N. Broker or dealer selling oil and gas interests	☐	OGI
O. Put and call broker or dealer or option writer	☐	PCB
P. Broker or dealer selling securities of only one issuer or associated issuers (other than mutual funds)	☐	BIA
Q. Broker or dealer selling securities of non-profit organizations (e.g., churches, hospitals)	☐	NPB
R. Investment advisory services	☐	IAD
S. Broker or dealer selling tax shelters or limited partnerships	☐	TAP
T. Other (give details on Schedule D)	☐	OTH

	YES	NO	
11. A. Does applicant effect transactions in commodity futures, commodities, commodity options as a broker for others or dealer for its own account?	☐	☐	30
B. Does applicant engage in any other non-securities business? (If "yes," describe each other business briefly on Schedule D.)	☐	☐	31
12. Is applicant applying for or continuing an existing registration solely as a government securities broker or dealer?	☐	☐	32
13. Notice of Government Securities Activities			
A. Is applicant acting or intending to act as a government securities broker or dealer in addition to other broker-dealer activities? (Do not answer "Yes" if applicant answered "yes" to Question 12.)	☐	☐	33
B. Is applicant ceasing its activities as a government securities broker or dealer? (Do not answer "Yes" unless previously answered "yes" to Question 13A.)	☐	☐	34

BILLING CODE 4190-11-C

7. § 249.501a is revised as follows:

§ 249.501a Form BDW, notice of withdrawal from registration as broker-dealer pursuant to § 240.15b6–1, § 240.15Bc3–1, or § 240.15Cc1–1 of this chapter.

This form shall be used for filing a notice of withdrawal as broker-dealer pursuant to Rule 15b6–1 (§ 240.15b6–1 of this chapter), Rule 15Bc3–1 § 240.15B3–1 of this chapter), or Rule 15Cc1–1 (§ 240.15Cc1–1 of this chapter). Under sections 15(b), 15B, 15C, 17(a), and 23(a) of the Securities Exchange Act of 1934 (17 CFR Part 240), and the rules and regulations thereunder, the Commission is authorized to solicit the information required to be supplied by this form from registrants desiring to withdraw their registration as a broker-dealer. Disclosure of the information specified in this form is mandatory prior to processing of applications for withdrawal, except for social security account numbers, disclosure of which is voluntary. The information will be used for the primary purpose of determining whether it is in the public interest to permit a broker-dealer to withdraw his registration. This notice will be made a matter of public record. Therefore, any information, given will be available for inspection by any member of the public. Because of the public nature of the information the Commission can utilize it for a variety of purposes, including referral to other governmental authorities or securities self-regulatory organizations for investigatory purposes or in connection with litigation involving the Federal securities laws and other civil, criminal or regulatory statutes or provisions. Social security account numbers, if furnished, will assist the Commission in identifying registrants and, therefore, in promptly processing applications for withdrawal. Failure to disclose the information requested by Form BDW, except for social security account numbers, may result in the registrant not being permitted to withdraw his registration.

By the Commission.

Jonathan G. Katz,

Secretary.

April 21, 1987.

Regulatory Flexibility Certification

I, John S.R. Shad, Chairman of the Securities and Exchange Commission, hereby certify pursuant to 5 U.S.C. 605(b) that the amendment to Rule 15b2–2 set forth in Securities Exchange Act Release No. 24372 will not have a significant economic impact on a substantial number of small entities. The reasons for this certification are that the amendments would not effect a substantial number of small entities because most self-regulatory organizations that are required to conduct inspections of government securities brokers and dealers are not small entities.

Dated: April 29, 1987.

John S.R. Shad,

Chairman.

[FR Doc. 87–10258 Filed 5–5–87; 8:45 am]

BILLING CODE 8010–01–M

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

18 CFR Part 385

[Docket Nos. RM83–41–001 et al.]

Rules of Discovery for Trial-Type Proceedings

Issued April 30, 1987.

AGENCY: Federal Energy Regulatory Commission.

ACTION: Order granting rehearing for purposes of further consideration.

SUMMARY: On March 2, 1987, the Federal Energy Regulatory Commission (Commission) issued a final rule amending its Rules of Practice and Procedure to provide rules for conducting discovery in its trial-type proceedings. In this order, the Commission grants rehearing of its order solely for the purpose of further consideration.

EFFECTIVE DATE: April 30, 1987.

FOR FURTHER INFORMATION CONTACT: Joseph R. Hartsoe, Deputy Assistant General Counsel, Rulemaking and Legislative Analysis, Federal Energy Regulatory Commission, 825 North Capitol Street, NE., Washington, DC 20426, (202) 357–8530.

SUPPLEMENTARY INFORMATION:

Order Granting Rehearing Solely for the Purpose of Further Consideration

Before Commissioners: Martha O. Hesse, Chairman; Anthony G. Sousa, Charles G. Stalon, Charles A. Trabandt and C.M. Naeve.

On March 2, 1987, the Federal Energy Regulatory Commission (Commission) issued a final rule amending its Rules of Practice and Procedure[1] to provide rules for conducting discovery in its trial-type proceedings.[2] On March 31, 1987 and April 1, 1987, the Commission received three timely petitions for rehearing of this final rule from Tennessee Gas Pipeline Company, Independent Petroleum Association of America, and American Gas Association.[3] In order to have sufficient time to consider the issues raised in these petitions, the Commission grants rehearing of this final rule solely for the purpose of further consideration. This order is effective on the date of issuance. This action does not constitute a grant or denial of these petitions on the merits, either in whole or part. As provided in § 385.713(d) of the Commission's Rules of Practice and Procedure,[4] no answers to this petition will be entertained by the Commission.

By the Commission.

Kenneth F. Plumb,

Secretary.

[FR Doc. 87–10268 Filed 5–5–87; 8:45 am]

BILLING CODE 6717–01–M

[1] 18 CFR § 385 (1986).

[2] Order No. 466, 52 FR 6957 (March 6, 1987), III FERC Stats. & Regs. ¶ 30,731 (1987).

[3] The Commission also received a petition for rehearing filed out of time by Texas Eastern Transmission Corporation on April 2, 1987.

[4] 18 CFR § 385.713(d) (1986).

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Social Security Administration

20 CFR Part 416

[Regs. No. 16]

Supplemental Security Income for the Aged, Blind, and Disabled; Liquid and Nonliquid Resources and Resources Determinations; Correction

AGENCY: Social Security Administration, HHS.

ACTION: Correction of final rule.

SUMMARY: In the final rule which appeared in the **Federal Register** February 11, 1987 (52 FR 4282), paragraphs (b) and (c)(1) of § 416.1201 of Regulations No. 16 were revised. However, two words in paragraph (c)(1) were inadvertently transposed and are being corrected at this time.

FOR FURTHER INFORMATION CONTACT: Henry D. Lerner, Legal Assistant, 6401 Security Boulevard, Baltimore, Maryland 21235, telephone (301) 594–7463.

SUPPLEMENTARY INFORMATION:

PART 416—[AMENDED]

A revision of paragraphs (b) and (c)(1) of § 416.1201 of Regulations No. 16 was published as a final rule on February 11,

1987 (52 FR 4282). In paragraph (c)(1), we inadvertently transposed 2 words on lines 4 and 5. The words "nonwork certain days" should read "certain nonwork days". Paragraph (c)(1) of § 416.1201 is correctly revised to read as follows:

§ 416.1201 Resources; general.

* * * * *

(c) *Nonliquid resources.* (1) Nonliquid resources are property which is not cash and which cannot be converted to cash within 20 days excluding certain nonwork days as explained in § 416.120(d). Examples of resources that are ordinarily nonliquid are loan agreements, household goods, automobiles, trucks, tractors, boats, machinery, livestock, buildings and land. Nonliquid resources are evaluated according to their equity value except as otherwise provided. (See § 416.1218 for treatment of automobiles.)

* * * * *

(Catalog of Federal Domestic Assistance Program No. 13.807, Supplemental Security Income Program)

Dated: April 30, 1987.

James V. Oberthaler,

Deputy Assistant Secretary for Management Analysis and Systems.

[FR Doc. 87-10298 Filed 5-5-87; 8:45 am]

BILLING CODE 4190-11-M

DEPARTMENT OF THE INTERIOR

Office of Surface Mining Reclamation and Enforcement

30 CFR Part 950

Wyoming Permanent Regulatory Program

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

ACTION: Final rule.

SUMMARY: The Director, OSMRE is announcing the approval, with certain exceptions, of a proposed amendment submitted by the State of Wyoming as a modification to its permanent regulatory program (herein after referred to as the Wyoming program) under the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The amendment consists of revisions to Chapter XII of the approved permanent program regulations on self-bonding.

EFFECTIVE DATE: May 6, 1987.

FOR FURTHER INFORMATION CONTACT: Mr. Jerry Ennis, Director, Casper Field Office, Office of Surface Mining Reclamation and Enforcement, Federal Building, 100 East B Street, Room 2128, Casper, Wyoming 82601-1918; Telephone: (307) 261-5776.

SUPPLEMENTARY INFORMATION:

Background

Information concerning the general background on the Wyoming program submission and the approval process, as well as the Secretary's findings, the disposition of comments and an explanation of the conditions of approval can be found in the November 26, 1980 **Federal Register** (45 FR 78637 through 78684). Information on amendments to the Wyoming self bonding program can be found in the February 28, 1985 **Federal Register** (50 FR 8108). Other actions on conditions of approval and program amendments are identified at 30 CFR 950.11 and 950.15.

Proposed Amendment

On December 13, 1985, the State of Wyoming submitted to OSMRE an amendment to its approved regulatory program. The amendment consists of revisions to Chapter XII, Self-Bonding Program of the approved permanent program regulations which are administered by the Wyoming Land Quality Division. Specifically, the amendment consists of revising the definition of "collateral bond" to mean a self-bond supported by personal property, real property or investment-grade securities. The amendment also addresses the procedures to be followed by an operator who intends to use personal property as collateral for posting his reclamation bond. Additionally, the proposed amendment recodifies Chapter XII of the Wyoming program.

The January 15, 1986 **Federal Register** announced receipt of the proposed amendment and invited public comment on its adequacy (51 FR 1816). The public comment period ended February 14, 1986. The public hearing scheduled for February 10, 1986 was not held since no person requested an opportunity to testify at the hearing.

On June 10, 1986, Wyoming submitted additional material to further clarify the proposed amendment. OSMRE reopened the comment period on August 1, 1986 (51 FR 27560) to allow the public an opportunity to comment on the supplemental material. That comment period closed on August 18, 1986.

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 the proposed amendment submitted to OSMRE by the State of Wyoming on December 13, 1985. Only those revisions of particular interest are discussed below. Any revisions not specifically discussed below are found to be no less stringent than SMCRA and no less effective than the Federal regulations. Revisions which are not discussed below contain language similar to the corresponding Federal rules, concern nonsubstantive wording changes, or provide for recodification of the Chapter and do not adversely affect other aspects of the program.

1. Wyoming has amended the definition of "collateral bond" in Chapter XII section 1(b) to mean a self-bond which is supported by one or more of the following . . . "personal property which the Administrator [of the Department of Environmental Quality] deems to protect the State's interest." [The definition also retains the allowance of real property and investment grade securities as collateral.) Section 2(a)(x)(B)(III) is also amended to further describe what is meant by personal property. The amended language states that personal property shall *not* include: Property which is already collateral or which the operator sells in the course of business; fixtures; certain securities; and certain certificates of deposit. The amendments would allow personal property such as equipment used in mining to be pledged as collateral.

The Federal rule at 30 CFR 800.5 defines types of collateral which OSMRE has found to be acceptable to secure an operator's collateral bond. OSMRE has included only certain specific types of personal property. These are cash accounts, negotiable bonds, negotiable certificates of deposit and irrevocable letters of deposit. They do not include equipment or other personal goods.

In a letter of Wyoming dated April 9, 1986, OSMRE indicated that Wyoming should define the term "personal property" in its proposed amendment so that it clearly allowed only those types of collateral contained in the Federal definition at 30 CFR 800.5.

Wyoming responded on June 10, 1986, by saying that the collateral bond under the Wyoming program differs from that of the collateral bond defined at 30 CFR 800.5 in that under the Wyoming regulations, acceptance of a collateral bond is discretionary with the regulatory authority and is dependent upon the regulatory authority's review of the applicant's balance sheet. Wyoming stated that since this is the case, the restrictions on personal property found in the Federal regulations are not required in the Wyoming regulations. Wyoming argued

that it should be allowed to accept equipment as collateral and that in some cases such an arrangement could benefit Wyoming in that equipment would be on the site and at the State's disposal for use in reclamation in the event of operator default. Wyoming said that it is indifferent as to whether collateral posted is real property or personal property, as long as its value was sufficient to cover the required bond amount.

Since Wyoming's letter did not specify what is included in its review of the applicant's balance sheet, OSMRE is not in a position to determine the adequacy of the combined balance sheet and personal property criteria for acceptance of an applicant's "self-bond" under those criteria. Therefore, OSMRE has reviewed the allowance of personal property as collateral on its face. OSMRE, in its revised bonding rules published July 19, 1983, decided to delete personal property other than those specific forms listed above, from the definition of "collateral bond." OSMRE determined that accepting a perfected first-lien security interest in personal property as collateral may present problems such as "loss of the property, obtaining appraisals of such items, fluctuations in values, and the attachment of liens" (July 19, 1983, 48 FR 32935). The deletion of personal property as an acceptable form of collateral indicated OSMRE's position that the risks involved may put the regulatory authority in a position of being at a higher risk than anticipated by section 509 of SMCRA in accepting an operator collateral bond. The regulatory authority would risk devaluation of the property through damage or obsolescence or through inability to find a buyer for the property at the appraised price. Costs such as the cost to move mining equipment to a potential buyer's location could affect the salability of or profit on a piece of equipment. (Wyoming stated in its letter that it has accepted pledges of personal property that is relatively immobile and "can only be dismantled and removed at substantial expense.") While equipment left on an abandoned site may be of help in some reclamation activities, there is no guarantee that the equipment will be in suitable condition or that the regulatory authority will be able to pay operator costs or properly dispose of the equipment following reclamation activities.

Therefore the Director finds the proposed Wyoming regulations to be inconsistent with the Federal requirements and less effective than the rules for collateral bond in 30 CFR 800.5 and 800.21.

2. The proposed Wyoming rules at Chapter XII, section 2(a)(x)(C) state that the Administrator *may* require possession by the Department of personal property, or a mortgage or security agreement executed by the operator in favor of the Department of Environmental Quality.

The Federal rule at 30 CFR 800.21(c) requires a "first mortgage, first deed of trust or perfected first-lien security interest" in any real property used as collateral. The Federal provisions provide for greater control over collateral deposited by the applicant than do the proposed Wyoming provisions.

Therefore, the Director finds that the Wyoming proposed rules are less effective than the Federal rules and that Wyoming must retain or reinstate its requirement that the regulatory authority "shall require . . . a mortgage executed by the operator in favor of the department of environmental quality" for real property used as collateral [June 1984 addendum to Wyoming's Chapter XII at section 2(a)(10)(c)]; or otherwise amend its rules to be no less effective than 30 CFR 800.21(c).

3. Wyoming's proposed rules would add section 2(a)(x)(C)(II) to Chapter XII to require that a security interest created by a security agreement be perfected by filing a financing statement or by taking possession of the collateral. The rule would further provide that when the collateral is left in the possession of the operator, in the event of default the operator shall assemble the collateral and make it available to the regulatory authority. Since the Director is disapproving the allowance of personal property other than those types listed in the definition of collateral bond in 30 CFR 800.5, these provisions become extraneous. The Director, therefore, requires that Wyoming further amend its rules to remove extraneous language at section 2(a)(x)(C)(II) concerning forms of personal property found by the Director to be unacceptable as forms of collateral.

Public Comments

Pursuant to section 503(b) of SMCRA and 30 CFR 732.17(h)(10)(i), comments were solicited from various Federal agencies. No substantive comments were received from the respondents.

The Director solicited public comment on the proposed amendment in the January 15, 1986 **Federal Register** (51 FR 1816). One set of comments was received from the Arch Mineral Corporation.

Arch Mineral asserts that the distinction between the Federal regulations and the Wyoming regulation is that the Federal regulations allow three types of bonds (collateral, surety, and self-bond) were the Wyoming regulations, recognize only two forms of bond (surety and self-bond). The commenter states that under the proposed Wyoming regulations, the collateral bond is not a separate independent form of bond; it is another form of the self-bond that, contrary to the Federal regulations, the State is under no obligation to accept. The commenter goes on to say that the self-bond under the Wyoming regulations is virtually identical to the Federal program in that it requires an applicant to meet certain financial balance sheet tests which demonstrate financial strength.

As stated above under Finding 1, OSMRE does not agree that the nature of collateral bond acceptance as found in the Wyoming program is substantially different from that found at 30 CFR 800.5 and 800.21. OSMRE agrees that the self-bonding criteria of the Wyoming program is nearly identical to the Federal regulations at 30 CFR 800.23. However, as further discussed under Finding 1, Chapter XII, section 2(a)(x) allows the Administrator to accept a collateral bond using personal property when the applicant has not met the self-bonding criteria of the Wyoming program and is therefore less effective than the Federal regulations. Since the Wyoming rules do not indicate what financial balance sheet tests must be met for the collateral self-bond, OSMRE cannot judge the effectiveness of this arrangement and must view such a bond as a collateral bond.

Arch Mineral outlines a variery of reasons why OSMRE's concerns on the use of personal property to secure an operator's reclamation obligation are not valid in the context of Wyoming's coal mining industry. Although some of the commenter's points may be valid, the Secretary considered similar arguments in the July 19, 1983 rulemaking concerning bonding, and, as indicated in Finding 1 above, decided that the risks of allowing personal property to be posted as collateral outweighed the benefits (48 FR 32932).

Director's Decision

Based on the above findings, the Director is approving the proposed amendments as submitted by Wyoming on December 13, 1985, with the exception of those provisions discussed in Finding 1. In addition, as indicated in Findings 2 and 3, he is requiring that

Wyoming submit regulatory program amendments. The Federal rules at 30 CFR Part 950 are being amended to implement this decision. This final rule is being made effective immediately to expedite the State program amendment process.

Effect of Director's Decision

Section 503 of SMCRA establishes that a State may not exercise jurisdiction under SMCRA unless the State program is approved by the Secretary. Similarly, the Secretary's regulations at 30 CFR 732.17(a) require that any alteration of an approved State program must be submitted to OSMRE as a program amendment. Thus, any changes to the program are not enforceable by the State until approved by the Director. The Federal regulations at 30 CFR 732.17(g) clearly prohibit any unilateral changes to approved State programs. In his oversight of the Wyoming program, the Director will recognize only the statutes and regulations approved by him, and will require the enforcement by Wyoming of only such provisions.

Procedural Requirements

1. Compliance with the 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.

2. Executive Order No. 12291 and the Regulatory Flexibility Act

On August 28, 1981, the Office of Management and Budget (OMB) granted OSMRE an exemption from sections 3, 4, 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 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 will be met by the State.

3. 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 Subjects in 30 CFR Part 950

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

Dated: April 29, 1987.

James W. Workman,

Deputy Director, Operations and Technical Services, Office of Surface Mining Reclamation and Enforcement.

PART 950—WYOMING

30 CFR Part 950 is amended as follows:

1. The authority citation for Part 950 continues to read as follows:

Authority: Pub. L. 95–87, Surface Mining Control and Reclamation Act of 1977 (30 U.S.C. 1201 *et seq.*).

2. A new paragraph (b) is added to § 950.12 to read as follows:

§ 950.12 State program provisions and amendments disapproved.

* * * * *

(b) The following provision of the Rules and Regulations of the Land Quality Division of the Wyoming Department of Environmental Quality, as submitted on December 13, 1985, is hereby disapproved: Addition of section 1(b)(iii) to Chapter XII which would have allowed personal property other than allowed by 30 CFR 800.5 (cash accounts, negotiable bonds, certificates of deposit, and letters of credit) to be posted as collateral bond.

3. Paragraph (j) is added to § 950.15 to read as follows:

§ 950.15 Approval of regulatory program amendments.

* * * * *

(j) The following amendments to the Wyoming permanent regulatory program, as submitted to OSMRE on December 13, 1985, are approved effective May 6, 1987, with the exception identified in § 950.12(b), and with the exception of those provisions identified in § 950.16(r) as requiring further amendment.

4. A new paragraph (r) is added to 30 CFR 950.16 to read as follows:

§ 950.16 Required program amendents.

* * * * *

(r) By October 30, 1987, Wyoming shall submit revisions to its permanent program rules or otherwise propose to amend its program:

(1) At Chapter XII, section 2(a)(x)(C) to ensure that the Administrator has access to and control over collateral in a manner no less effective than 30 CFR 800.21; and

(2) At Chapter XII, section 2(a)(x)(C)(II) to remove language made extraneous by the Director's disapproval of the use of personal property as collateral.

[FR Doc. 87–10243 Filed 5–5–87; 8:45 am]

BILLING CODE 4310–05–M

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 180

[PP 5F3299/R877; FRL–3196–1]

Pesticide Tolerance for Lactofen; Correction

AGENCY: Environmental Protection Agency.

ACTION: Final rule; correction.

SUMMARY: In FR Doc. 87–7258 at page 10567 in the **Federal Register** of Thursday, April 2, 1987 (52 FR 10567), a new § 180.431 *Lactofen; tolerance for residues* was added to 40 CFR Chapter I. This action inadvertently assigned the new section to a number already in use, resulting in duplicate entries for 40 CFR 180.431.

PART 180—[AMENDED]

Therefore, the section number and heading published in FR Doc. 87–7258 are corrected to read "§ 180.432 *Lactofen; tolerance for residues.*"

FOR FURTHER INFORMATION CONTACT: John A. Richards, Chief, OPTS Federal Register Staff (TS–788B), Environmental Protection Agency, Room NE–G009, 401 M Street, SW., Washington, DC 20460, (202)–382–2253.

Dated: April 28, 1987.

Douglas D. Campt,

Director, Office of Pesticide Programs.

[FR Doc. 87–10263 Filed 5–5–87; 8:45 am]

BILLING CODE 6560–50–M

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 22

[General Docket No. 85–388; (RM 5167); FCC 87–116]

Common Carrier Services; Rural Service Areas; Applications for Cellular Radio

AGENCY: Federal Communications Commission (FCC).

ACTION: Final rule.

SUMMARY: The FCC determined that its rules for filing cellular radio applications should be amended to codify certain policies for Metropolitan Statistical Areas (MSAs). The FCC has adopted a

rule that cellular applications may only be filed on the dates it specifies. Also, the FCC has prohibited the filing of applications by other than licensees or permittees to serve unserved areas outside the authorized CGSA but within the MSA until five years from the date of the first construction permit granted in that MSA. Further, the FCC decided to lift the freeze imposed on accepting applications by permittees and licensees to expand their CGSAs so that they can promptly recommence system modifications. This action is taken in response to comments received as a result of the FCC's Further Notice of Proposed Rulemaking, published November 25, 1986, 51 FR 42597.

EFFECTIVE DATE: June 5, 1987.

ADDRESS: Federal Communications Commission, 1919 M Street NW., Washington, DC 20554.

FOR FURTHER INFORMATION CONTACT: David H. Siehl, Mobile Services Division, Common Carrier Bureau; tele: 202–632–6450.

SUPPLEMENTARY INFORMATION:

Summary of the Commission's Second Report and Order, CC Docket 85–388 Adopted April 7, 1987, and Released April 22, 1987

The full text of this Commission decision is available for inspection and copying during normal business hours in the FCC Dockets Branch (Room 230), 1919 M Street NW., Washington, DC. The complete text of this decision may also be purchased from the Commission's copy contractor, International Transcription Service, (202) 857–3800, 2100 M Street NW., Suite 140, Washington, DC 20037.

Summary of Report and Order

1. On October 16, 1986, the FCC adopted a Further Notice of Proposed Rulemaking which solicited comments concerning changes in the rules for Rural Service Areas (RSAs) and procedural matters in regard to filing cellular radio applications. The FCC carefully considered the comments and determined that the procedural matters should be considered separately from its other proposals regarding RSAs, which the FCC will address later.

2. As for the procedural matters, the FCC adopted a Second Report and Order (*Order*) which amends its rules to codify its policy that cellular radio applications must be filed by a date certain as specified by the Commission. The Commission also decided to retain its existing policy that allows only licensees and permittees to file for authorization to those areas that are outside the exisiting CGSA but within the MSA. The FCC noted that while this policy provides adequate time for permittees and licensees to expand their cellular geographic service areas (CGSAs) in response to unanticipated demand in an orderly way, they should be allowed only a specified period of time for such expansion free of competitive applications. Therefore, the FCC amended its rules to prohibit the filling of applications by other parties to serve unserved areas outside the presently authorized CGSA but within the MSA until five years from the date of the first construction permit granted in that MSA. The FCC will issue at a future date a public notice announcing the initial construction permit date and expiration date of the five year expansion period for each MSA. It will also announce later when the fill-in applications must be filed for each MSA and what the process will be for selecting the fill-in applications. Finally, to the extent indicated in the Order, the immediate effect of the FCC's action is to lift the freeze that it had imposed on accepting applications by licensees and permittees that proposed serving areas not included in existing or proposed CGSAs but within the MSA.

3. *Final Regulatory Flexibility Analysis.* Pursuant to the Regulatory Flexibility Act of 1980, 5 U.S.C. 605(b), it is certified that the final rule will not have a significant impact on a substantial number of small entities. This action is expected to promote efficient and expedient authorization of cellular service to MSAs and provide an orderly process to meet this objective. No alternatives which would provide the same predictable and efficient, orderly processing in the licensing of cellular service were found.

Ordering Clauses

4. Authority for this rulemaking is contained in sections 1, 4(i) and (j), 301, 303 and 309 of the Communications Act of 1934, as amended.

5. Accordingly, it is ordered, that Part 22 of the Rules is amended as specified in Rules Section appended to this order. The amendments adopted as well as the period established in this Order for cellulal licensees/permittees to expand their CGSAs within the MSA will become effective June 5, 1987.

6. Further, it is ordered, that the Commission's action taken in the Further Notice to refuse the acceptance of any application proposing to serve areas not included in existing or proposed CGSAs is lifted, effective as of the release date of this Order to the extent indicated above.

7. *Service List.* A copy of this *Order* shall be sent to the Chief, Counsel of Advocacy of the Small Business Administration.

List of Subjects in 47 CFR Part 22

Cellular radio service, Processing of applications.

Federal Communications Commission.

William J. Tricarico,

Secretary.

Rules Section

Part 22 of Title 47 of the Code of Federal Regulations is proposed to be amended as follows:

PART 22—PUBLIC MOBILE SERVICE

1. The authority citation for Part 22 continues to read:

Authority: Secs. 4, 303, 48 Stat. 1066, 1082, as amended (47 U.S.C. 154, 303).

2. Section 22.6 is amended by adding paragraph (b)(3) to read as follows:

§ 22.6 Filing of applications, fees, and number of copies.

* * * * *

(b) * * *

(3) Notwithstanding any other rule provision of this part, cellular radio applications may only be filed on the dates specified by the Commission.

* * * * *

3. Section 22.31(a)(1) is revised to read as follows:

§ 22.31 Mutually exclusive applications.

* * * * *

(a) * * *

(1) In the Domestic Public Cellular Radio Telecommunications Service, applications shall be considered mutually exclusive if their proposed Cellular Geographic Service Areas (CGSAs) overlap in such a way that a grant of one would preclude the grant of one or more of the other applications, provided however that:

(i) Notwithstanding any other provision of this rule section and rule provision of this Part, applications by other than licensees or permittees for a Metropolitan Statistical Area (MSA) to serve unserved areas outside the presently authorized CGSA but within the MSA are prohibited from being filed and will not be considered as mutually exclusive with a licensee's or permittee's application filed under § 22.903(d) herein until five years from the date of the first construction permit granted in that MSA.

* * * * *

[FR Doc. 87–10204 Filed 5–5–87; 8:45 am]

BILLING CODE 6712–01–M

47 CFR Part 73

[MM Docket No. 86-221; RM-5296]

Radio Broadcast Services; Grover City, CA; Correction

AGENCY: Federal Communications Commission.

ACTION: Final rule; correction.

SUMMARY: This document corrects the Final Rule in this proceeding concerning the substitute of an FM channel in Grover City, CA.

FOR FURTHER INFORMATION CONTACT: Nancy V. Joyner (202) 634-6530.

SUPPLEMENTARY INFORMATION: On April 22, 1987, the Commission published a Final Rule (Report and Order) in this proceeding (52 FR 13242). The amendatory language is corrected to show that channel 296A is replaced by channel 297B1.

Federal Communications Commission.

William J. Tricarico,

Secretary.

[FR Doc. 87-10205 Filed 5-5-87; 8:45 am]

BILLING CODE 6712-01-M

47 CFR Part 73

[MM Docket No. 86-261; RM-5277; RM-5547]

Radio Broadcasting Services; Manchester and McKee, KY

AGENCY: Federal Communications Commission.

ACTION: Final rule.

SUMMARY: This document allots FM Channel 289A to Manchester, Kentucky as that community's second FM allotment at the request of Barker Broadcasting Company; and FM Channel 300A to McKee, Kentucky as that community's first FM allotment at the request of Betty J. Rudder. The allocation of this channel to McKee, Kentucky resolves the counterproposal filed in this proceeding by Betty J. Rudder.

With this action, this proceeding is terminated.

EFFECTIVE DATE: June 8, 1987. The window period for filing applications will open on June 9, 1987, and close on July 8, 1987.

FOR FURTHER INFORMATION CONTACT: D. David Weston, Mass Media Bureau, (202) 634-6530.

SUPPLEMENTARY INFORMATION: This is a summary of the Commission's Report and Order, MM Docket No. 86-261, adopted March 27, 1987, and released April 24, 1987. The full text of this Commission decision is available for inspection and copying during normal business hours in the FCC Dockets Branch (Room 230), 1919 M Street NW., Washington, DC. The complete text of this decision may also be purchased from the Commission's copy contractors, International Transcription Service, (202) 857-3800, 2100 M Street NW., Suite 140, Washington, DC 20037.

List of Subjects in 47 CFR Part 73

Radio broadcasting.

PART 73—[AMENDED]

1. The authority citation for Part 73 continues to read as follows:

Authority: 47 U.S.C. 154, 303.

§ 73.202 [Amended]

2. Section 73.202(b), the Table of FM Allotments is amended by adding the entry of Channel 289A to Manchester, Kentucky and Channel 300A to McKee, Kentucky.

Federal Communications Commission.

Mark N. Lipp,

Chief, Allocations Branch, Policy and Rules Division, Mass Media Bureau.

[FR Doc. 87-10213 Filed 5-5-87; 8:45 am]

BILLING CODE 6712-01-M

47 CFR Part 73

[MM Docket No. 86-62; RM-5149]

Television Broadcasting Services; Bishop, CA

AGENCY: Federal Communications Commission.

ACTION: Final rule.

SUMMARY: This document assigns UHF Television Channel 20 to Bishop, CA, as that community's first local commercial television service in response to a request filed by Pappas Telecasting, Incorporated.

With this action, this proceeding is terminated.

EFFECTIVE DATE: June 8, 1987.

FOR FURTHER INFORMATION CONTACT: Nancy V. Joyner, Mass Media Bureau, (202) 634-6530.

SUPPLEMENTARY INFORMATION: This is a summary of the Commission's Report and Order, MM Docket No. 86-62, adopted March 27, 1987, and released April 24, 1987. The full text of this Commission decision is available for inspection and copying during normal business hours in the FCC Dockets Branch (Room 230), 1919 M Street NW., Washington, DC. The complete text of this decision may also be purchased from the Commission's copy contractors, International Transcription Service, (202) 857-3800, 2100 M Street NW., Suite 140, Washington, DC 20037.

List of Subjects in 47 CFR Part 73

Television broadcasting.

PART 73—[AMENDED]

1. The authority citation for Part 73 continues to read as follows:

Authority: 47 U.S.C. 154, 303.

§ 73.606 [Amended]

2. In § 73.606(b), the Table of Assignments is amended by adding Bishop, California, Channel 20+.

Mark N. Lipp,

Chief, Allocations Branch, Policy and Rules Division, Mass Media Bureau.

[FR Doc. 87-10212 Filed 5-5-87; 8:45 am]

BILLING CODE 6712-01-M

47 CFR Part 73

[MM Docket No. 86-152; RM-5004]

Television Broadcasting Services; Waterville, ME

AGENCY: Federal Communications Commission.

ACTION: Final rule.

SUMMARY: This document allots UHF Television Channel 23 to Waterville, Maine, in response to comments filed by the Passamaquoddy Tribe. Canadian concurrence has been obtained for the allotment of Channel 23 at Waterville. This allotment could provide for a first commercial television service in the community. With this action, this proceeding is terminated.

EFFECTIVE DATE: June 8, 1987.

FOR FURTHER INFORMATION CONTACT: Kathleen Scheuerle, Mass Media Bureau, (202) 634-6530.

SUPPLEMENTARY INFORMATION: This is a summary of the Commission's Report and Order, MM Docket No. 86-152, adopted February 10, 1987, and released April 24, 1987. The full text of this Commission decision is available for inspection and copying during normal business hours in the FCC Dockets Branch (Room 230), 1919 M Street NW., Washington, DC. The complete text of this decision may also be purchased from the Commission's copy contractors, International Transcription Service, (202) 857-3800, 2100 M Street NW., Suite 140, Washington, DC 20037.

List of Subjects in 47 CFR Part 73

Television broadcasting.

PART 73—[AMENDED]

1. The authority citation for Part 73 continues to read as follows:

Authority: 47 U.S.C. 154, 303.

§ 73.606 [Amended]

2. Section 73.606(b), the Table of Allotments is amended by adding Waterville, Channel 23-, under Maine.

Federal Communications Commission.

Mark N. Lipp,

Chief, Allocations Branch, Policy and Rules Division, Mass Media Bureau.

[FR Doc. 87-10214 Filed 5-5-87; 8:45 am]

BILLING CODE 6712-01-M

Proposed Rules

Federal Register
Vol. 52, No. 87
Wednesday, May 6, 1987

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. 87-NM-40-AD]

Airworthiness Directives; Boeing Model 767 Series Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of Proposed Rulemaking (NPRM).

SUMMARY: This notice proposes to adopt a new airworthiness directive (AD), applicable to certain Boeing Model 767 airplanes, that would require replacement of an existing 50-ampere circuit breaker with a 35-ampere circuit breaker. This 35-ampere circuit breaker would provide current overload protection for the auxiliary power unit (APU) starter transformer rectifier unit (TRU). This proposal is prompted by reports of smoke filling the aft cargo compartment on Model 757 airplanes (which have a design similar to Model 767 airplanes) and open flame at the TRU, resulting from failure of the existing 50-ampere circuit breaker to open when the APU starter motor had seized.

DATES: Comments must be received no later than June 26, 1987.

ADDRESSES: Send comments on the proposal in duplicate to the Federal Aviation Administration, Northwest Mountain Region, Office of the Regional Counsel (Attn: ANM-103), Attention: Airworthiness Rule Docket No. 87-NM-40-AD, 17900 Pacific Highway South, C-68966, Seattle, Washington 98168. The applicable service information may be obtained from the Boeing Commercial Airplane Company, P.O. Box 3707, Seattle, Washington 98124. 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. Terry Rees, Aerospace Engineer, Systems and Equipment Branch, ANM-130S; telephone (206) 431-1941. 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, Office of the Regional Counsel (Attn: ANM-103), Attention: Airworthiness Rules Docket No. 87-NM-40-AD, 17900 Pacific Highway South, C-68966, Seattle, Washington 98168.

Discussion

An operator of Boeing Model 757 airplanes reported two incidents of overheated TRU's associated with the APU starter motor. The TRU's overheated because the starter motors seized, resulting in abnormally high current. In one instance, the overheated TRU caused the aft cargo compartment to fill with smoke. In the other instance, an open flame was observed coming from the TRU.

Analysis indicates that the existing 50-ampere circuit breaker provides adequate protection for the wiring, but does not provide current overload protection for the TRU when an APU starter motor seizes. Consequently, Boeing issued Alert Service Bulletin 757-24A0032, dated May 16, 1986, that provides instructions for replacement of the 50-ampere circuit breaker with a 35-ampere circuit breaker to protect the starter TRU against a possible overheat condition. The FAA issued AD 87-01-01 (51 FR 45304; December 18, 1986) to require that this action be accomplished on Model 757 airplanes.

The design of this circuit on certain Model 767 airplanes is similar to that of the Model 757. Although no comparable incidents have as yet been reported on the Model 767, the same potential exists.

The FAA has reviewed and approved Boeing Alert Service Bulletin 767-24A0039, dated March 12, 1987, which describes the same corrective action as that specified in the Model 757 service bulletin.

Since this condition is likely to exist or develop on Model 767 airplanes of this type design, an AD is proposed that would require replacement of the 50-ampere circuit breaker with a 35-ampere circuit breaker in accordance with the referenced service bulletin.

No Model 767 airplanes of U.S. registry are affected by this AD, since U.S. operators have elected a different system configuration option. It is estimated that it would take approximately 2 manhours per airplane to accomplish the required actions, and that the average labor charge would be $40 per manhour. The cost of one 35-ampere circuit breaker per airplane is estimated to be $145 per unit.

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 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 on a substantial number of small entities because few, if any, Boeing Model 767 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

PART 39—[AMENDED]

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:

1. The authority citation of 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:

Boeing: Applies to Model 767 series airplanes specified in Boeing Alert Service Bulletin 767-24A0039, dated March 12, 1987, certificated in any category. Compliance is required as indicated unless previously accomplished.

To minimize the fire hazard associated with overheating of the transformer rectifier unit (TRU) of the auxiliary power unit (APU) starter motor, accomplish the following within 3 months after the effective date of this AD:

A. Replace the 50-ampere circuit breaker used for the APU starter TRU with a 35-ampere circuit breaker in accordance with Boeing Service Bulletin 767-24A0039, dated March 12, 1987, or later FAA-approved revision.

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, Seattle Aircraft Certification Office, FAA, Northwest Mountain Region.

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 the modification required by this AD.

All persons affected by this directive who have not already received copies of the appropriate service document from the manufacturer may obtain copies upon request to the Boeing Commercial Airplane Company, P.O. Box 3707, Seattle, Washington 98124-2207. This document 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.

Issued in Seattle, Washington, on April 28, 1987.

Frederick M. Isaac,

Acting Director, Northwest Mountain Region.

[FR Doc. 87-10235 Filed 5-5-87; 8:45 am]

BILLING CODE 4910-13-M

14 CFR Part 39

[Docket No. 87-NM-12-AD]

Airworthiness Directives; The de Havilland Aircraft Company of Canada, a Division of Boeing of Canada, Ltd., Model DHC-7 Series Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of Proposed Rulemaking (NPRM).

SUMMARY: This notice proposes to amend an existing airworthiness directive (AD), applicable to de Havilland Model DHC-7 series airplanes, which currently requires a change to the airplane flight manual (AFM) to reflect a higher threshold temperature for the use of ice protection procedures, and requires engaging continuous ignition in order to prevent the potential for engine flameouts in icing conditions. This action would revise the continuous ignition requirement and clarify the icing threshold temperatures in order to maintain safe operation in potential icing conditions, without being unduly restrictive.

DATES: Comments must be received no later than May 26, 1987.

ADDRESSES: Send comments on the proposal in duplicate to Federal Aviation Administration, Northwest Mountain Region, Office of the Regional Counsel (Attn: ANM-103), Attention: Airworthiness Rules Docket No. 87-NM-12-AD, 17900 Pacific Highway South, C-68966, Seattle, Washington 98168. The applicable service information may be obtained from the de Havilland Aircraft Company of Canada, a Division of Boeing of Canada, Ltd., Garratt Boulevard, Downsview, Ontario M3K 1Y5, Canada. This information may be examined at the FAA, Northwest Mountain Region, 17900 Pacific Highway South, Seattle, Washington, or at the FAA, New England Region, New York Aircraft Certification Office, 181 South Franklin Avenue, Room 202, Valley Stream, New York.

FOR FURTHER INFORMATION CONTACT: Mr. Raymond J. O'Neill, Propulsion Branch, ANE-174, FAA, New England Region, New York Aircraft Certification Office, 181 South Franklin Avenue, Room 202, Valley Stream, New York 11581; telephone (516) 791-7421.

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 may 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, Office of the Regional Counsel (Attn: ANM-103), Attention: Airworthiness Rules Docket No. 87-NM-12-AD, 17900 Pacific Highway South, C-68966, Seattle, Washington 98168.

Discussion

On March 27, 1985, FAA issued AD 84-24-51, Amendment 39-5030 (50 FR 13553; April 5, 1985), to require a change to the de Havilland Model DHC-7 FAA-approved airplane flight manual (AFM) to reflect a higher threshold temperature for the use of ice protection procedures, and to require engagement of continuous ignition while operating in icing conditions. That AD was prompted by reports of two engine flameouts on Model DHC-7 airplanes which occurred in icing conditions.

Since issuance of that AD, de Havilland has conducted investigations, which revealed that the DHC-7 (PT6A-50) engine flameout problems were due to contaminated fuel, and not specifically to atmospheric moisture. Therefore, the FAA has determined that the requirements in the existing AD to increase the threshold temperature and apply continuous ignition in visible moisture conditions, are unwarranted.

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

Since this condition is likely to exist or develop on other airplanes of this same type design, an AD is proposed which would require revising the FAA-approved AFM to require engaging continuous ignition if necessary under

certain icing conditions, and to clarify the icing threshold temperatures by specifying true and indicated ambient temperatures.

It is estimated that 42 airplanes of U.S. registry would be affected by this AD. By lowering the ambient temperature below that which continuous ignition must be used to the original value specified in the AFM (prior to issuance of AD 84–24–51), operators benefit from a relieved economic burden due to reduced continuous ignition use. The only additional cost to operators would be that associated with revising pages of the FAA-approved AFM.

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 on a substantial number of small entities because of the minimal cost of compliance per airplane (explained above). 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

PART 39—[AMENDED]

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:

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 Airworthiness Directive (AD) 84–24–51, Amendment 39–5030 (50 FR 13553; April 5, 1985), as follows:

The De Havilland Aircraft Company of Canada, a division of Boeing of Canada, Ltd.: Applies to all Model DHC–7 series airplanes, certificated in any category. Compliance is required as indicated, unless previously accomplished.

To ensure correct operation of the airplane during flight in icing conditions, accomplish the following:

A. Within 60 days after the effective date of this AD, revise Section 2 of the FAA-approved DHC–7 Airplane Flight Manual (AFM), Revision 29, dated July 26, 1985, as follows, and provide this information to the flight crews:

1. Change the title of paragraph 2.21 to read: "2.21 Flight in Icing Conditions (Visible Moisture and/or Precipitation at Temperatures Below +5°C True Outside Air Temperature, or +13° C Indicated Outside Air Temperature When Correction Chart Figure 4–4–4 is Not Used)."

2. Change item 8 in paragraph 2.21.1 to read: "8. Ignition switch—Manual (if required)."

3. Add the following note at the end of paragraph 2.21.1: "NOTE: Manual (continuous) engine ignition is an automatic function when AIRFRAME—FAST/SLW switch is at fast or slow position."

B. 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.

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, New York Aircraft Certification Office, FAA, New England Region.

All persons affected by this directive who have not already received the appropriate service information from the manufacturer may obtain copies upon request to de Havilland Aircraft Company of Canada, A Division of Boeing of Canada, Ltd., Garratt Boulevard, Downsview, Ontario M3K 1Y5, Canada. This information may be examined at FAA, Northwest Mountain Region, 17900 Pacific Highway South, Seattle, Washington, or at FAA, New England Region, New York Aircraft Certification Office, 181 South Franklin Avenue, Room 202, Valley Stream, New York.

Issued In Seattle, Washington, on April 28, 1987.

Frederick M. Isaac,

Acting Director, Northwest Mountain Region.

[FR Doc. 87–10236 Filed 5–5–87; 8:45 am]

BILLING CODE 4910–13–M

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14 CFR Part 71

[Airspace Docket No. 87–ASW–15]

Proposed Designation of Control Zone; Springdale, AR and Proposed Amendment of Control Zone; Fayetteville, AR

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking.

SUMMARY: This notice proposes to designate a part-time control zone at Springdale, AR, and also proposes to alter the control zone at Fayetteville, AR. The intended effect of the proposed action is to provide adequate controlled airspace for aircraft executing standard instrument approach procedures (SIAP) to the Springdale Municipal Airport and to return to public use airspace no longer required for the protection of aircraft arriving/departing the Drake Field Airport, Fayetteville, AR. This action is necessary since a part-time nonfederal airport traffic control tower (ATCT) and scheduled air service are provided at the Springdale Municipal Airport. Designation of a control zone will also allow the Springdale Airport to be used as an alternate airport under instrument flight rules (IFR). The alteration of the Fayetteville control zone is necessary, since a review indicates that there is more controlled airspace than is required for the protection of aircraft arriving/departing the Drake Field Airport.

DATE: Comments must be received on or before June 8, 1987.

ADDRESSES: Send comments on the proposal in triplicate to: Manager, Airspace and Procedures Branch, Air Traffic Division, Southwest Region, Docket No. 87–ASW–15, Federal Aviation Administration, P.O. Box 1689, Forth Worth, TX 76101.

The official docket may be examined in the Office of the Regional Counsel, Southwest Region, Federal Aviation Administration, 4400 Blue Mound Road, Forth Worth, TX.

An informal docket may also be examined during normal business hours at the Airspace and Procedures Branch, Air Traffic Division, Southwest Region, Federal Aviation Administration, 4400 Blue Mound Road, Forth Worth, TX.

FOR FURTHER INFORMATION CONTACT: Robert P. Wheeler, Airspace and Procedures Branch, ASW–534, Air Traffic Division, Southwest Region, Federal Aviation Administration, P.O. Box 1689, Forth Worth, TX 76101; telephone: (817) 624–5561.

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, 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-addressed, stamped postcard on which the following statement is made: "Comments to Airspace Docket No. 87-ASW-15." 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 Office of the Regional Counsel, 4400 Blue Mound Road, Fort Worth, TX, 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, Manager, Airspace and Procedures Branch, Air Traffic Division, Southwest Region, P.O. Box 1689, Forth Worth, TX 76101. 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 § 71.171 of Part 71 of the Federal Aviation Regulations (14 CFR Part 71) by designating a control zone at Springdale, AR, and amending the control zone at Fayetteville, AR. The Springdale Airport has a part-time nonfederal ATCT. Designating a control zone at Springdale will enhance airport usage and will allow the airport to be used as an alternate under IFR. The intended effect of this action is to ensure segregation of aircraft using the Springdale Municipal Airport under IFR and other aircraft operating under visual flight rules (VFR). Altering the Fayetteville Control Zone will reduce the amount of controlled airspace that extends to the surface encompassing the Drake Field Airport. Section 71.171, of Part 71 of the Federal Aviation Regulations was republished in Handbook 7400.6C dated January 2, 1987.

The FAA has determined that this proposed regulation only involves an established body of technical regulations for which frequent and routine amendments are necessary to keep them operationally current. It, therefore—(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); 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 71

Aviation safety, Control zones.

The Proposed Amendment

PART 71—[AMENDED]

Accordingly, pursuant to the authority delegated to me, the FAA proposes to amend Part 71 of the Federal Aviation Regulations (14 CFR Part 71) as follows:

1. The authority citation for Part 71 continues to read as follows:

Authority: 49 U.S.C. 1348(a), 1354(a), 1510; E. O. 10854; 49 U.S.C. 106(g) (Revised Pub. L. 97-449, January 12, 1983); 14 CFR 11.69.

§ 71.171 [Amended]

2. Section 71.171 is amended as follows:

Springdale, AR [New]

Within a 5-mile radius of the Springdale Municipal Airport (Latitude 36° 10' 35" N, Longitude 94°07'09" W.). This control zone is effective during the specific dates and times established in advance by a Notice to Airmen. The effective dates and times will thereafter be continuously published in the Airport/ Facility Directory.

Fayetteville, AR [Amended]

Within a 5-mile radius of the Drake Field Airport (Latitude 36°00'18" N., Longitude 94°10'12" W.). This control zone is effective during the specific dates and times established in advance by a Notice to Airmen. The effective dates and times will thereafter be continuously published in the Airport/Facility Directory.

Issued in Fort Worth, TX, on April 22, 1987.

Larry L. Craig,

Assistant Manager, Air Traffic Division, Southwest Region.

[FR Doc. 87-10231 Filed 5-5-87; 8:45 am]

BILLING CODE 4910-13-M

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14 CFR Part 71

[Airspace Docket No. 87-AGL-6]

Proposed Alteration to Control Zone and Transition Area; Belleville, IL

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking.

SUMMARY: This notice proposes to alter the Belleville, Illinois, control zone and transition area to accommodate existing Standard Instrument Approach Procedures (SIAPs) to Scott Air Force Base, Belleville, Illinois. The alterations are needed to accommodate high performance Lear 35 aircraft operating at Scott Air Force Base and to coincide with present control zone and transition area criteria.

The intended effect of this action is to increase the transition area radius, and add an extension to the control zone.

DATE: Comments must be received on or before June 1, 1987.

ADDRESS: Send comments on the proposal in triplicate to: Federal Aviation Administration, Regional Counsel, AGL-7, Attn: Rules Docket No. 87-AGL-6, 2300 East Devon Avenue, Des Plaines, Illinois 60018.

The official docket may be examined in the Office of the Regional Counsel, Federal Aviation Administration, 2300 East Devon Avenue, Des Plaines, Illinois.

An informal docket may also be examined during normal business hours at the Air Traffic Division, Airspace Branch, Federal Aviation Administration, 2300 East Devon Avenue, Des Plaines, Illinois.

FOR FURTHER INFORMATION CONTACT: Edward R. Heaps, Air Traffic Division, Airspace Branch, AGL-520, Federal Aviation Administration, 2300 East Devon Avenue, Des Plaines, Illinois 60018, telephone (312) 694-7360.

SUPPLEMENTARY INFORMATION: The present control zone and transition area are being altered to accommodate high performance Lear 35 aircraft operating at Scott Air Force Base. The modifications are necessary to coincide with present control zone and transition area criteria. The modified control zone will consist of an extension from the 5 mile radius zone to 9 miles southeast of the Scott AFB TACAN. The modified transition area will consist of a 9 mile radius.

Aeronautical maps and charts will reflect the defined area which will enable other aircraft to circumnavigate the area in order the comply with applicable visual flight rule requirements.

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, 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-addressed, stamped postcard on which the following statement is made: "Comments to Airspace Docket No. 87–AGL–6." 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, FAA, Great Lakes Region, Office of Regional Counsel, 2300 East Devon Avenue, Des Plaines, Illinois, 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 Information Center, APA–430, 800 Independence Avenue SW., Washington, DC 20591, or by calling (202) 426–8058. 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 §§ 71.171 and 71.181 of Part 71 of the Federal Aviation Regulations (14 CFR Part 71) to modify the designated control zone and transition area near Belleville, IL.

Sections 71.171 and 71.181 of Part 71 of the Federal Aviation Regulations were republished in Handbook 74000.6C dated January 2, 1987.

The FAA has determined that this proposed regulation only involves an established body of technical regulations for which frequent and routine amendments are necessary to keep them operationally current. It, therefore—(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); 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 critieria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 71

Aviation safety, Control zones, Transition areas.

The Proposed Amendment

PART 71—[AMENDED]

Accordingly, pursuant to the authority delegated to me, the Federal Aviation Administration proposes to amend Part 71 of the Federal Aviation Regulations (14 CFR Part 71) as follows:

1. The authority citation for Part 71 continues to read as follows:

Authority: 49 U.S.C. 1348(a), 1354(a), 1510; E.O. 10854; 49 U.S.C. 106(g) (Revised Pub. L. 97–449, January 12, 1983); 14 CFR 11.69.

§ 71.171 [Amended]

2. Section 71.171 is amended as follows:

Belleville, IL [Amended]

Within a 5-mile radius of Scott AFB, Belleville, IL (lat. 38°32'34" N., long. 89°51'04" W.) and within 2 miles each side of the 317° bearing from the Belleville RBN, extending from the 5 mile radius zone to 5.5 miles southeast of the southeast end of Scott AFB runway 31 and within 2 miles either side of the Scott AFB TACAN 101° bearing extending from the 5 mile radius zone to 9 miles southeast of the Scott AFB TACAN.

§ 71.181 [Amended]

3. Section 71.181 is amended as follows:

Belleville, IL [Amended]

That airspace extending upward from 700 feet above the surface within a 9 mile radius of Scott AFB, Belleville, Illinois (lat. 38°32'34" N., long. 89°51'04" W.), excluding that portion overlying the East St. Louis and St. Jacob, Illinois transition area.

Issued in Des Plaines Illinois, on April, 16, 1987.

Teddy W. Burcham,

Manager, Air Traffic Division.

[FR Doc. 87–10233 Filed 5–5–87; 8:45 am]

BILLING CODE 4910–13–M

14 CFR Part 71

[Airspace Docket No. 87–ASW–11]

Proposed Removal of Control Zone; Killeen, TX and Proposed Designation of Control Zones, Robert Gray Army Airfield (AAF) and Hood Army Airfield (AAF), TX

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking.

SUMMARY: This notice proposes to remove the control zone at Killeen, TX. Coincident with this action is the proposed designation of a control zone at the Robert Gray AAF and the proposed designation of a part-time control zone at the Hood AAF. The intended effect of the proposed action is to cancel the existing Killeen, TX, Control Zone and define the airspace as two distinctly named control zones. The proposed Robert Gray AAF Control Zone will encompass the Robert Gray AAF, Hood AAF, and Killeen Municipal Airports. The proposed Hood AAF Part-time Control Zone will encompass the Hood AAF and Killeen Municipal Airports. This action is necessary to provide a more accurate, real time, official weather reporting service for the Hood AAF and Killeen Municipal Airports. Also, coincident with this action, the official weather for both the Hood AAF and the Killeen Municipal Airports will be provided by USAF personnel at Hood AAF during the hours that the Hood AAF Control Zone is in effect. This action will provide more accurate weather and will enhance airport usage at both Hood AAF and Killeen Municipal Airports.

DATES: Comments must be received on or before June 1, 1987.

ADDRESSES: Send comments on the proposal in triplicate to: Manager, Airspace and Procedures Branch, Air Traffic Division, Southwest Region, Docket No. 87–ASW–11, Federal Aviation Administration, P.O. Box 1689, Forth Worth, TX 76101.

The official docket may be examined in the Office of the Regional Counsel, Southwest Region, Federal Aviation Administration, 4400 Blue Mound Road, Fort Worth, TX.

An informal docket may also be examined during normal business hours at the Airspace and Procedures Branch, Air Traffic Division, Southwest Region, Federal Aviation Administration, 4400 Blue Mound Road, Fort Worth, TX.

FOR FURTHER INFORMATION CONTACT: Robert P. Wheeler, Airspace and Procedures Branch, ASW–534, Air

Traffic Division, Southwest Region, Federal Aviation Administration, P.O. Box 1689, Fort Worth, TX 76101; telephone: (817) 624–5561.

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, 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-addressed, stamped postcard on which the following statement is made: "Comments to Airspace Docket No. 87–ASW–11." 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 Office of the Regional Counsel, 4400 Blue Mound Road, Fort Worth, TX, 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, Manager, Airspace and Procedures Branch, Air Traffic Division, Southwest Region, P.O. Box 1689, Fort Worth, TX 76101. 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 § 71.171 of Part 71 of the Federal Aviation Regulations (14 CFR Part 71) to remove the control zone at Killeen, TX. Coincident with this action is the proposed designation of control zones at the Robert Gray AAF and Hood AAF Airports. Also, coincident with this action, the official weather for both the Hood AAF and the Killeen Municipal Airports will be provided by U.S. Air Force (USAF) personnel at the Hood AAF. Presently, the official weather observation for all three airports; Robert Gray AAF, Hood AAF, and Killeen Municipal, is furnished by USAF personnel located at the Robert Gray AAF. The Hood AAF and Killeen Municipal Airports are located approximately 9 miles east of the Robert Gray AAF. This distant weather observation determines the status of all three airports. Frequently, the weather conditions reported for Robert Gray AAF (the official weather) and the actual conditions encountered at the Hood AAF and/or the Killeen Municipal Airports are dissimilar. During periods that weather reporting is not available at the Hood AAF, that airspace defined as the Hood AAF Control Zone will revert to the Robert Gray AAF Control Zone. Weather reporting for the Robert Gray AAF Control Zone will be provided by USAF personnel at the Robert Gray AAF. Also, coincident with this action, the airspace for the proposed control zones encompassing the Hood AAF will be established at 3 miles since the primary use of the airport is by military helicopter traffic. Section 71.171 of Part 71 of the Federal Aviation Regulations was republished in Handbook 7400.6C dated January 2, 1987.

The FAA has determined that this proposed regulation only involves an established body of technical regulations for which frequent and routine amendments are necessary to keep them operationally current. It, therefore—(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); 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 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 71

Aviation safety, Control zones.

The Proposed Amendment

PART 71—[AMENDED]

Accordingly, pursuant to the authority delegated to me, the FAA proposes to amendment Part 71 of the Federal Aviation Regulations (14 CFR Part 71) as follows:

1. The authority citation for Part 71 continues to read as follows.

Authority: 49 U.S.C. 1348(a), 1354(a), 1510; E.O. 10854; 49 U.S.C. 106(g) (Revised Pub. L. 97–449, January 12, 1983); 14 CFR 11.69.

§ 71.171 [Amended]

2. Section 71.171 is amended as follows:

Killeen, TX [Removed]

Robert Gray Army Airfield (AAF), TX [New]

Within a 5-mile radius of Robert Gray AAF (Lat 31°04'04" N., Long. 97°49'45" W.); within 1.5 miles each side of the north localizer course extending from the 5-mile radius area to 7 miles north of the airfield; within 2 miles each of the 160° bearing from the Robert Gray AAF extending from the 5-mile radius area to 11 miles south of the airport; within a 3-mile radius of the Hood AAF (Lat. 31°08'13" N., Long. 97°42'49" W.); within a 5-mile radius of the Killeen Municipal Airport (Lat. 31°05'09" N., Long. 97°41'10" W.), excluding the portion within the Hood AAF, TX Control Zone when it is effective.

Hood Army Airfield (AAF), TX [New]

Within a 3-mile radius of the Hood AAF (Lat. 31°08'13" N., Long. 97°42'49" W.) and within a 5-mile radius of the Killeen Municipal Airport (Lat. 31°05'09" N., Long. 97°41'10" W.); excluding the portion subtended by a chord drawn between the points of the Robert Gray AAF, TX, Control Zones south to the intersection of the 3-mile radius of the Hood AAF and the 5-mile radius of the Robert Gray AAF, TX, Control Zones south to the intersection of the 5-mile radius of the Killeen Municipal Airport and the 5-mile radius of the Robert Gray AAF Control Zones. This control zone is effective 2300, local time, Sunday to 0700, local time, Saturday and other times by notice to airmen.

Issued in Fort Worth, TX, on April 16, 1987.

Larry L. Craig,

Assistant Manager, Air Traffic Division, Southwest Region.

[FR Doc. 87–10228 Filed 5–5–87; 8:45 am]

BILLING CODE 4910–13–M

14 CFR Part 71

[Airspace Docket No. 87–AAL–2]

Proposed Establishment of Big Lake and Petersburg, AK, Transition Areas

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTON: Notice of proposed rulemaking.

SUMMARY: This notice proposes to establish two transition areas, one with a base 700 feet above the surface at Big Lake, AK, (lat. 61°32'10" N., long. 149°48'42" W.) and one with a base 1,200 feet above the surface at Petersburg, AK, (lat. 56°48'07" N., long. 132°56'36" W.). A public instrument approach procedure has been developed at each location and a transition area is needed to provide protected airspace for the approach/departure and missed approached procedures.

DATES: Comments must be received on or before June 15, 1987.

ADDRESSES: Send comments on the proposal in triplicate to: Federal Aviation Administration, Attention: Manager, Air Traffic Division, Docket No. 87-AAL-2, 701 C Street, Box 14, Anchorage, AK 99513-0087.

The official docket may be examined in the FAA Rules Docket, Office of the Regional Counsel, Third Floor, Module F, Federal Building U.S. Courthouse, 701 C Street, Anchorage, AK.

An informal docket may also be examined during normal business hours at the office of the Regional Air Traffic Division, Third Floor, Module B, Federal Building U.S. Courthouse, 701 C Street, Anchorage, AK.

FOR FURTHER INFORMATION CONTACT: E. Wayne, Bates, Procedures and Airspace Specialist, (AAL-537), Air Traffic Division, Federal Aviation Administration, 701 C Street, Box 14, Anchorage, AK 99513-0087, telephone (907) 271-5902.

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 decision on the proposal. Comments are specifically invited on the overall regulatory, 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-addressed, stamped postcard on which the following statement is made: "Comments to Airspace Docket No. 87-AAL-2." 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 Regional Air Traffic Division, Third Floor, Module B, Federal Building U.S. Courthouse, 701 C Street, Anchorage, AK, 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, Manager, Operations, Procedures, and Airspace Branch, Air Traffic Division, Alaskan Region, 701 C Street, Box 14, Anchorage, AK, 99513-0087. 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 § 71.181 of Part 71 of the Federal Aviation Regulations (14 CFR Part 71) to establish two transition areas, one with a base of 700 feet above the surface at Big Lake, AK, (Lat. 61°32'10" N., long. 149°48'42" W.) and one with a base of 1,200 feet above the surface at Petersburg, AK, (lat. 56°48'07" N., long. 132°56'36" W.). A public instrument approach procedure has been developed at each location and a transition area is needed to provide protected airspace for the approach/departure and missed approach procedures. Section 71.181 of Part 71 of the Federal Aviation Regulations was republished in Handbook 7400.6B dated January 2, 1987.

The FAA has determined that this proposed regulation only involves an established body of technical regulations for which frequent and routine amendments are necessary to keep them operationally current. It, therefore, (1) is not a "major rule" under Executive Order 12291; (2) is not a "significant rule" under Executive 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 71

Aviation safety, transition areas.

The Proposed Amendment

PART 71—[AMENDED]

Accordingly, pursuant to the authority delegated to me, the Federal Aviation Administration proposes to amend Part 71 of the Federal Aviation Regulations (14 CFR Part 71) as follows:

1. The authority citation for Part 71 continues to read as follows:

Authority. 49 U.S.C. 1348(a), 1354(a), 1510; E.O. 10854; 49 U.S.C. 106(g) (Revised Pub. L. 97-449, January 12, 1983); 14 CFR 11.69.

§ 71.181 [Amended]

2. Section 71.181 is amended as follows:

Big Lake, AK—[New]

That airspace extending upward from 700 feet above the surface within a 5-mile radius of the Big Lake Airport (lat. 61°32'10" N., long. 149°48'42" W.); within 4.5-miles each side of the Big Lake VORTAC (lat. 61°34'12" N., long 149°57'54" W.); 296°T (271°M) radial, extending from the 5-mile radius area to 12-miles northwest of the Big Lake VORTAC.

Petersburg, AK [New]

That airspace extending upward from 1,200 feet above the surface within 5 miles southwest and 5 miles northeast of the Petersburg localizer 310°T (337°M) radial extending from 5 miles southeast to 16.5 miles northeast of the Petersburg localizer (lat. 56°29'03" N., long. 132°21'35" W.); from a point where the Fredericks Point (FPN) NDB 193°T (320°M) bearing crosses the 310°T (337°M) radial from the Petersburg localizer, 18 miles west on a heading of 253°T (280°M) and 5 miles south and 5 miles north of the 253°T (280°M) heading.

Issued in Anchorage, Alaska, on April 23, 1987.

Henry A. Elias,

Manager, Air Traffic Division.

[FR Doc. 87-10230 Filed 5-5-87; 8:45 am]

BILLING CODE 4910-13-M

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14 CFR Part 71

[Airspace Docket No. 87-ASW-9]

Proposed Designation of Transition Area: Graford, TX; Correction

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Correction to Notice of proposed rulemaking and extension of comment period.

SUMMARY: This notice announces extension of the comment period and

correction to the description of the proposed transition area at Graford, TX. The intended effect of the proposed action is to provide adequate controlled airspace for aircraft executing a new standard instrument approach procedure (SIAP) to the Possum Kingdom Airport, Graford, TX, utilizing the new Brazos River nondirectional radio beacon (NDB). This action is necessary since the description of the proposed transition area contained in the original proposal does not include an appropriate arrival extension. The proposed action will change the airport status from visual flight rules (VFR) to instrument flight rules (IFR).

DATE: Comments must be received on or before June 10, 1987.

ADDRESSES: Send comments on the proposal in triplicate to: Manager, Airspace and Procedures Branch, Air Traffic Division, Southwest Region, Docket No. 87–ASW–9, Federal Aviation Administration, 4400 Blue Mound Road, Fort Worth, TX 76193–5530

The official docket may be examined in the Office of the Regional Counsel, Southwest Region, Federal Aviation Administration, 4400 Blue Mound Road, Fort Worth, TX.

An informal docket may also be examined during normal business hours at the Airspace and Procedures Branch, Air Traffic Division, Southwest Region, Federal Aviation Administration, 4400 Blue Mound Road, Fort Worth, TX.

FOR FURTHER INFORMATION CONTACT: Robert P. Wheeler, Airspace and Procedures Branch, Air Traffic Division, Southwest Region, Federal Aviation Administration, 4400 Blue Mound Road, Fort Worth, TX 76193–5530; Telephone: (817) 624–5561.

SUPPLEMENTARY INFORMATION:

Background

Airspace Docket No. 87–ASW–9, published on March 24, 1987, (53 FR 9312) proposed to designate a transition area at Graford, TX. A review of the SIAP for the Possum Kingdom Airport revealed the need for a correction to the description of the proposed transition area to include an arrival extension. This action will extend the comment period closing date to June 10, 1987, instead of the existing May 10, 1987, comment period deadline.

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, 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-addressed, stamped postcard on which the following statement is made: "Comments to Airspace Docket No. 87–ASW–9." 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 Office of the Regional Counsel, 4400 Blue Mound Road, Fort Worth, TX, 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, Manager, Airspace and Procedures Branch, Air Traffic Division, Southwest Region, 4400 Blue Mound Road, Forth Worth, TX 76193–5530. 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 § 71.181 of Part 71 of the Federal Aviation Regulations (14 CFR Part 71) to designate a transition area at Graford. TX. This action is necessary since a new SIAP has been developed that will utilize the new Brazos River NDB. The intended effect of the proposed action is to ensure segregation of aircraft operating to and from the airport under IFR and other aircraft operating under VFR. The proposed action will change the airport status from VFR to IFR. Section 71.181 of Part 71 of the Federal Aviation Regulations was republished in Handbook 7400.6C dated January 2, 1987.

The FAA has determined that this proposed regulation only involves an established body of technical regulations for which frequent and routine amendments are necessary to keep them operationally current. It, therefore—(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); 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 71

Aviation safety, Transition areas.

The Proposed Amendment

PART 71—[AMENDED]

Accordingly, pursuant to the authority delegated to me, the FAA proposes to amend Part 71 of the Federal Aviation Regulations (14 CFR Part 71) as follows:

1. The authority citation for Part 71 continues to read as follows:

Authority: 49 U.S.C. 1348(a), 1354(a), 1510; E.O. 10854; 49 U.S.C. 106(g) (Revised Pub. L. 97–449, January 12, 1983); 14 CFR 11.69.

§ 71.181 [Amended]

2. § 71.181 is amended as follows:

Graford, TX

That airspace extending upward from 700-feet above the surface within a 6.5-mile radius of the Possum Kingdom Airport, (latitude 32°55'23" N., longitude 98°26'10" W.), and within 4.5-miles each side of the 037° bearing of the Brazos River NDB, (latitude 32°57'05" N., longitude 98°24'46" W.), extending from the 6.5-mile radius area to 14 miles northeast of the airport.

Issued in Fort Worth, TX, on April 23, 1987.

Richard J. Cibak,

Acting Manager, Air Traffic Division, Southwest Region.

[FR Doc. 87–10227 Filed 5–5–87; 8:45 am]

BILLING CODE 4910–13–M

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14 CFR Part 71

[Airspace Docket No. 86–ANM–28]

Proposed Alteration of Laramie, WY, Control Zone

AGENCY: Federal Aviation Administration (FAA) DOT.

ACTION: Withdrawal of notice of proposed rulemaking.

SUMMARY: This notice withdraws the Notice of Proposed Rulemaking (NPRM), Airspace Docket No. 86–ANM–28, which was published in the **Federal Register** on February 18, 1987. The NPRM proposed to change the Laramie, Wyoming, Control Zone from full-time to part-time. The NPRM is withdrawn as a result of objections raised during the comment period.

FOR FURTHER INFORMATION CONTACT: Robert L. Brown, ANM–534, Federal Aviation Administration, Docket No. 86–ANM–28, 17900 Pacific Highway South, C–68966, Seattle, Washington 98168, Telephone: (206) 431–2534.

SUPPLEMENTARY INFORMATION:

The Proposed Rule

On February 18, 1987, a Notice of Proposed Rulemaking was published in the **Federal Register** to change the status of the Laramie, Wyoming, Control Zone from full-time to part-time (52 FR 4916). A temporary reduction in personnel staffing of the Laramie Flight Service Station (FSS) resulted in weather observations not being available 24 hours a day.

Summary of Comments

The Aircraft Owners and Pilots Association objected to any modification to the effective hours of the Laramie Control Zone as a result of "emergency" part-timing at the associated FSS. This objection is based on a Congressional mandate which requires that the operation of a Flight Service Station on a part-time basis shall be subject to the condition that during any period when a Flight Service Station is part-timed, the service provided to airmen with respect to information relating to temperature, dewpoint, barometric pressure, ceiling, visibility, wind direction, and velocity for the area served by such station shall be as good or better than the service provided when the station is open, and all such service shall be provided either by mechanical device or by contract with another party.

Conclusion

In consideration of the aforementioned mandate, action is being taken to return the Laramie Flight Service Station to full-time status on or about August 15, 1987. Therefore, action to part-time the Laramie, Wyoming, Control Zone is unnecessary.

List of Subjects in CFR Part 71

Aviation safety, Control zones.

The Withdrawal

Accordingly, pursuant to the authority delegated to me, the Notice of Proposed Rulemaking, Airspace Docket No. 86–ANM–28, as published in the **Federal Register** on February 18, 1987 (52 FR 4916) is hereby withdrawn.

Authority: 49 U.S.C. 1348(a), 1354(a), 1510; E.O. 10854; 49 U.S.C. 106(g) (Revised Pub. L. 97–449, January 12, 1983); 14 CFR 11.69.

Issued in Seattle, Washington, on April 24, 1987.

Temple H. Johnson, Jr.,

Manager, Air Traffic Division Northwest Mountain Region.

[FR Doc. 87–10234 Filed 5–5–87; 8:45 am]

BILLING CODE 4910–13–M

DEPARTMENT OF LABOR

Wage and Hour Division; Employment Standards Administration

29 CFR Part 500

Migrant and Seasonal Agricultural Worker Protection Act

AGENCY: Wage and Hour Division, Employment Standards Administration, Labor.

ACTION: Notice of proposed rulemaking.

SUMMARY: This document provides a notice of proposed rulemaking to reflect: (1) Changes in the Migrant and Seasonal Agricultural Worker Protection Act (MSPA) concerning the utilization of undocumented workers brought about by the Immigration Reform and Control Act of 1986 (IRCA), (2) clarification of registration procedures concerning submission of renewal applications, (3) clarification of the definition of "on a seasonal or other temporary basis", and (4) changes in MSPA concerning its application to employers of special agricultural workers, including "replenishment workers." These proposed amendments will conform the regulations to the new statutes and clarify the aforementioned procedures.

DATE: Comments are due on or before June 5, 1987.

ADDRESS: Submit comments to Paula V. Smith, Administrator, Wage and Hour Division, U.S. Department of Labor, Room S–3502, 200 Constitution Avenue, NW., Washington, DC 20210.

FOR FURTHER INFORMATION CONTACT: Herbert J. Cohen, Deputy Administrator, Wage and Hour Division, U.S. Department of Labor, Room S–3502, 200 Constitution Avenue, NW., Washington, DC 20210 (202) 523–8305. This is not a toll free number.

SUPPLEMENTARY INFORMATION: MSPA was enacted in 1983, and like its predecessor, the Farm Labor Contractor Registration Act (FLCRA), specifically prohibits the knowing employment of aliens not lawfully admitted for permanent residence or who have not been authorized by the Attorney General to accept employment. This prohibition is applicable only to farm labor contractors. Until now, FLCRA and MSPA were the only Federal laws with such a prohibition. Sanctions for violation include assessment of civil money penalties, injunctive action, and the revocation or refusal to issue or renew a contractor's certificate of registration.

Enactment of IRCA makes the prohibition against the knowing employment of unauthorized aliens applicable to all employers. The prohibition became part of the Immigration and Nationality Act (INA) and was removed from MSPA. Determinations regarding the status of aliens are the responsibility of the Immigration and Naturalization Service (INS) and will be subject to regulations issued by that agency. Accordingly, MSPA regulations are being amended to reflect the changes required by IRCA. It should be noted, however, that a determination by INS that a farm labor contractor has knowingly employed an unauthorized alien is still a basis for DOL action regarding that contractor's certificate of registration.

The following is a section-by-section review of the changes proposed to conform MSPA regulations to the requirements of IRCA.

Section 500.1(i)(4)

A farm labor contractor has been prohibited under MSPA from recruiting, hiring, employing, or using, with knowledge, the services of aliens not lawfully admitted for permanent residence or who have not been authorized by the Attorney General to accept employment. Form WH–509 is an optional form which may be used to self-certify that an applicant is a citizen of the U.S. IRCA removes the prohibition concerning illegal aliens from MSPA and the regulations. Therefore, this section and form WH–509 are deleted, effective June 1, 1987, however, violations occuring prior to that date will continue to be subject to sanctions.

Section 500.20

Both "migrant agricultural worker" and "seasonal agricultural worker" are defined as "an individual who is employed in agricultural employment of a seasonal or other temporary nature . . ." Following this common beginning , each definition explained the provisions unique to that category of worker. The current regulation defines

the term "on a seasonal or other temporary basis" within the discussion of "seasonal agricultural worker", although it was intended to apply equally to both types of agricultural worker. In order to clarify that "on a seasonal or other temporary basis" pertains equally to both a "migrant agricultural worker" and a "seasonal agricultural worker", this definition is being re-designated as subsection "s". All subsequent subsections are also re-designated to maintain the proper alphabetical sequence.

A new subsection (y) is being added to define the "Immigration and Nationality Act" (INA) and the Immigration Reform and Control Act of 1986" (IRCA) which amended INA.

Section 500.30

The family business exemption and the small business exemption each provide total exemption from all provisions of MSPA for those persons who meet the established criteria. The Immigration Reform and Control Act of 1986 (IRCA), however, provides that any person who employs an alien who was admitted or whose status is adjusted under section 210A of the Immigration and Nationality Act (INA), also referred to as "replenishment workers", shall not knowingly provide false or misleading information to any alien who was admitted or whose status was adjusted under subsection (c) concerning the terms, conditions, or existence of agricultural employment described in section 301 (a), (b), and (c) of MSPA. In addition, such person will also be subject to the provisions of section 505 of MSPA which prohibits discrimination against those workers for the reasons stated therein.

Section 500.50

A farm labor contractor or farm labor contractor employee certificate of registration issued under MSPA and these regulations may be temporarily extended by the filing of an application with the Secretary at least thirty days prior to its expiration date. For purposes of clarification, the specific criteria which must be followed to properly accomplish this filing are outlined.

Section 500.51

The Secretary may suspend or revoke or refuse to issue or to renew a certificate of registration (including a farm labor contractor employee certificate) if the applicant or holder is determined to have violated certain specified provisions of MSPA or has been convicted within the preceding 5 years of certain specified crimes. IRCA provides, as stated in subsection (g), that certificate action may also be taken against any person who has been found to have violated paragraphs (1) or (2) of section 274A(a) of INA, which prohibits the knowing employment of unauthorized aliens.

Section 500.58

A farm labor contractor has been prohibited under MSPA from recruiting, hiring, employing, or using, with knowledge, the services of aliens not lawfully admitted for permanent residence or who have not been authorized by the Attorney General to accept employment. IRCA removes the prohibition concerning illegal aliens from MSPA and these regulations. Therefore, this section is deleted, effective June 1, 1987; however, violations occurring prior to that date will continue to be subject to sanctions.

Section 500.59

A farm labor contractor has been prohibited under MSPA from recruiting, hiring, employing, or using, with knowledge, the services of aliens not lawfully admitted for permanent residence or who have not been authorized by the Attorney General to accept employment. A farm labor contractor could protect against a charge of knowing employment of an unauthorized alien if the contractor demonstrated reliance in good faith on specific documentation prescribed by the Secretary as listed in this section. IRCA removes the prohibition concerning illegal aliens from MSPA and these regulations and establishes its own documentation for compliance. Therefore, this section is deleted.

Section 500.147

This section provides for the continuation of matters involving certificate action or an assessment of a civil money penalty for a violation of section 106 of MSPA and 500.58 of these regulations which occurred prior to June 1, 1987.

Section 500.171

IRCA provides that persons who employ special agricultural workers, known also as "replenishment workers", admitted beginning in 1990, and who provide transportation arrangements or assistance to such workers, must provide the same transportation arrangements or assistance for other similarly employed workers.

Section 500.172

IRCA provides that persons who are exempt under MSPA as a "small business" or "family business" and who employ special agricultural workers, known also as "replenishment workers", admitted beginning in 1990, shall not knowingly provide false or misleading information to any alien who was admitted or whose status was adjusted under subsection (c) concerning the terms, conditions, or existence of agricultural employment described in section 301 (a), (b), and (c) of MSPA.

Section 500.173

IRCA provides that persons who are exempt under MSPA as a "small business" or "family business" and who employ special agricultural workers, known also as "replenishment workers", admitted beginning in 1990, are subject to section 505 of MSPA which prohibits discrimination against such workers.

Section 500.174

IRCA provides that a civil money penalty shall be assessed in the same manner as provided by section 503 of MSPA and implemented in § 500.143 of these regulations, against any person or entity who (a) fails to furnish a certificate for adjustment of status as required under section 210A(b)(2) of INA or furnishes false statements of a material fact in such a certificate; (b) violates the provisions of section 210A(f)(1) or (2) (see § 500.171 or § 500.172 of these regulations); or (c) violates the discrimination provisions of section 505(a) of MSPA as they apply to such person or entity (see § 500.173 of these regulations).

Section 500.220

Except as specifically provided in these regulations, the "Rules of Practice and Procedure for Administrative Hearings Before the Office of Administrative Law Judges" established by the Secretary at 29 CFR Part 18 shall apply to administrative proceedings under MSPA. For purposes of clarification, we are outlining those sections of 29 CFR Part 18 which are particularly pertinent to determinations of the Secretary relating to assessment of civil money penalties and to certificate suspension, revocations and/or denials.

Regulatory Impact

The Department has determined that these regulations are not a major rule under Executive Order 12291. These regulations implement changes to MSPA that result from the enactment of IRCA. The entire MSPA regulation, when promulgated in 1983, was certified as not having a significant economic impact on a substantial number of small entities. The changes proposed here are

unlikely to have a significant economic impact.

List of Subjects in 29 CFR Part 500

Administrative practice and procedure, Agricultural associations, Agricultural worker, Aliens, Carpooling, Day-Haul, Farmers, Farm labor contractor, Health, Housing, Housing standards, Immigration, Insurance, Investigation, Migrant agricultural workers, Migrant labor, Motor carriers, Motor vehicle safety, Occupational safety and health, Penalties, Reporting requirements, Seasonal agricultural workers, Transportation, Wage, Manpower training programs, Labor, Safety.

Accordingly, it is proposed that Part 500 of Title 29, Code of Federal Regulations, be amended as follows:

Signed at Washington, DC this 29th day of April, 1987.

William E. Brock,

Secretary of Labor.

PART 500—[AMENDED]

29 CFR Part 500 is proposed to be amended as follows:

1. The authority citation for Part 500 is revised to read as set forth below.

Authority: Pub. L. 97-470, 96 Stat. 2583 (29 U.S.C. 1801-1872); Secretary's Order No. 5-83, 48 FR 15352; and Employment Standards Order No. 83-1, 48 FR 15352; Immigration and Nationality Act, section 210A(f).

§ 500.1 [Amended]

2. In § 500.1, paragraph (i)(4) is removed.

§ 500.20 [Amended]

3. In § 500.20, paragraph (r)(2)(iii), introductory text is redesignated as paragraph (s) introductory text; paragraph (r)(2)(iii)(A) is redesignated as paragraph (s)(1); paragraph (r)(2)(iii)(B) is redesignated as paragraph (s)(2); paragraph (r)(2)(iv) is redesignated as paragraph (s)(3); paragraph (r)(2)(v) is redesignated as paragraph (s)(4); paragraph (s) is redesignated as paragraph (t); paragraph (t) is redesignated as paragraph (u); paragraph (u) is redesignated as paragraph (v); paragraph (v) is redesignated as paragraph (w); and paragraph (w) is redesignated as paragraph (x).

4. Section 500.20 is further amended by adding a new paragraph (y) which reads as follows:

(y) The "Immigration and Nationality Act" (INA) as amended by the "Immigration Reform and Control Act of 1986" (IRCA) is codified in 8 U.S.C. 1101 *et seq.*; to effectively control unauthorized immigration to the United States and for other purposes.

§ 500.30 [Redesignated as § 500.31]

5. Section 500.30 is redesignated as § 500.31 and a new § 500.30 is added to read as follows:

Applicability of the Act: Exemptions

§ 500.30 Family and small business employers of replenishment workers.

Notwithstanding the provisions of MSPA discussed in § 500.31 regarding exempt persons, the Immigration Reform and Control Act of 1986, which amended the Immigration and Nationality Act (INA) provides that under section 210A of INA any family or small business which employs an alien whose status was adjusted to allow such worker admission to the U.S. as a "replenishment worker", shall not knowingly provide false or misleading information to an alien who was admitted or whose status was adjusted under subsection (c) concerning the terms, conditions, or existence of agricultural employment described in § 301 (a), (b), and (c) of MSPA. Such family or small business is also subject to the provisions of § 505 of MSPA prohibiting discrimination against workers for the reasons stated therein.

6. In § 500.50, paragraph (b)(1) is revised to read as follows:

§ 500.50 Duration of certificate.

* * * * *

(b) *Certificate renewal of farm labor contractors and farm labor contractor employees.* (1) A certificate issued under the Act and these regulations may be temporarily extended by the filing of a properly completed and signed application with the Secretary at least thirty days prior to the expiration date. "Filing" may be accomplished by hand delivery, certified mail, or regular mail.

(i) If the application for renewal is filed by regular mail or if it is delivered in person by the applicant, it must be *received* by the Department of Labor or an authorized representative of the Department of Labor at least 30 days prior to the expiration date shown on the current certificate.

(ii) If the application for renewal is filed by certified mail, it must be *mailed* at least 30 days prior to the expiration date shown on the current certificate. The authority to operate pursuant to a valid certificate under the Act and these regulations shall continue until the renewal application has been finally determined by the Secretary.

* * * * *

7. Section 500.51 is amended by adding a new paragraph (g) which reads as follows:

§ 500.51 Refusal to issue or to renew, or suspension or revocation of certificate.

* * * * *

(g) Has been found to have violated paragraphs (1) or (2) of § 274A(a) of the Immigration and Nationality Act (INA) by hiring, recruiting, or referring for a fee, for employment in the United States (1) an alien knowing the alien is an unauthorized alien as defined in § 274(h)(2) of INA with respect to such employment, or (3) an individual without complying with the requirements concerning verification of the person's identity and employment authorization as stated in section 274A(b) of INA.

§§ 500.58 and 500.59 [Removed]

8. Sections 500.58 and 500.59 and the undesignated center heading preceding them are removed.

9. Section 500.147 ia added to read as follows:

§ 500.147 Continuation of matters involving violations of section 106 of MSPA.

Any matter involving the revocation, suspension, refusal to issue or to renew a certificate of registration or any matter involving the assessment of a civil money penalty, for a violation of section 106 of MSPA or § 500.58 of these regulations, which occurred prior to June 1, 1987, shall continue through final administrative determination in accordance with the provisions of MSPA and these regulations.

§§ 500.200-500.271 (Subpart F) [Redesignated as Subpart G]

10. Subpart F, consisting of § 500.200 through § 500.271, is redesignated as Subpart G.

11. A new Subpart F, consisting of § 500.171 through § 500.174, is added to read as follows:

Subpart F—Alien Protections and Enforcement Mandated by the Immigration and Nationality Act (INA)

Alien Protections

Sec.

500.171 Equal transportation for domestic workers.

500.172 Prohibition against providing false information by certain employers.

500.173 Prohibition of discrimination by certain employers.

Enforcement

500.174 Violators are subject to assessment of civil money penalties.

Subpart F—Alien Protections and Enforcement Mandated by the Immigration and Nationality Act (INA)

Alien Protections

§ 500.171 Equal transportation for domestic workers.

As amended by IRCA, section 210A(f) of INA provides that a person who employs an alien, who was admitted or whose status is adjusted under section 210A of INA, in the performance of seasonal agricultural services and who provides transportation arrangements or assistance for such worker, must provide the same transportation arrangements or assistance (generally comparable in expense and scope) for any other individual employed in the performance of seasonal agricultural services. This refers to employers of additional seasonal agricultural workers, also known as "replenishment workers", admitted beginning in 1990.

§ 500.172 Prohibition against providing false information by certain employers.

As amended by IRCA, section 210A(f) of INA provides that a farm labor contractor, agricultural employer, or agricultural association, who is exempt under MSPA as a small business or a family business, shall not knowingly provide false or misleading information to an alien who was admitted, or whose status was adjusted under section 210A of INA, concerning the terms, conditions, or existence of agricultural employment with respect to the disclosure, posting, and recordkeeping requirements found in § 301 (a), (b), and (c) of MSPA. This refers to employers of additional seasonal agricultural workers, also known as "replenishment workers", admitted beginning in 1990.

§ 500.173 Prohibition of discrimination by certain employers.

As amended by IRCA, section 210A(f) of INA provides that a farm labor contractor, agricultural employer, or agricultural association, who is exempt under MSPA as a small business or a family business, who employs an alien who was admitted or whose status is adjusted under section 210A of INA in the performance of seasonal agricultural services, is subject to the provisions of section 505 of MSPA (see § 500.9 of these regulations), which prohibits discrimination against such worker for the reasons stated therein. This refers to employers of additional seasonal agricultural workers, also known as "replenishment workers", admitted beginning in 1990.

Enforcement

§ 500.174 Violators are subject to assessment of civil money penalties.

As amended by IRCA, section 210A(f) of INA provides that a civil money penalty as provided by section 503 of MSPA (implemented in § 500.143 of these regulations) shall be assessed in the same manner against any person or entity who:

(a) Fails to furnish a certificate for adjustment of status as required under section 210A(b)(2) of INA or furnishes false statements of a material fact in such a certificate;

(b) Violates section 210A(f) (1) or (2) of INA (see §§ 500.171 and 500.172 of these regulations), concerning providing equal transportation and prohibiting providing of false information; or

(c) Violates the provisions of section 505(a) of MSPA (see § 500.173 of these regulations), prohibiting discrimination against employees, as it applies to such persons or entities.

12. In § 500.212, paragraph (a) is revised to read as follows:

§ 500.212 Request for hearing.

(a) Any person desiring to request an administrative hearing on a determination referred to in § 500.210 shall make such request in writing to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, 200 Constitution Avenue NW., Washington, DC 20210, no later than thirty (30) days after the date of issuance of the notice referred to in § 500.210.

* * * * *

13. Section 500.220 is revised to read as follows:

Rules of Practice

§ 500.220 General.

(a) Except as specifically provided in these regulations, the "Rules of Practice and Procedure for Administrative Hearings Before the Office of Administrative Law Judges" established by the Secretary at 29 CFR Part 18 shall apply to administrative proceedings under MSPA.

(b) Sections 18.3 and 18.4 of 29 CFR Part 18 are particularly pertinent to determinations to suspend, revoke, refuse to issue, or refuse to renew a certificate of registration or to assess a civil money penalty. These sections provide that:

(1) Copies of all determinations shall be served on all parties of record;

(2) Service of determinations shall be made by personal service to the individual, officer of a corporation or attorney of record or by mailing the determination to the last known address of the individual, officer or attorney. If done by certified mail, *service is complete upon mailing.* If done by regular mail, service is complete upon receipt by addressee;

(3) Time will be computed beginning with the day following the action and includes the last day of the period unless it is a Saturday, Sunday or Federally observed holiday, in which case the time period includes the next business day; and

(4) When a determination is served on a party by mail, five (5) days shall be added to the prescribed period during which the party has the right to request a hearing on the determination.

[FR Doc. 87-10030 Filed 5-5-87; 8:45 am]

BILLING CODE 4510-27-M

PENSION BENEFIT GUARANTY CORPORATION

29 CFR Part 2603

Examination and Copying of Pension Benefit Guaranty Corporation Records; Correction

AGENCY: Pension Benefit Guaranty Corporation.

ACTION: Proposed rule; correction.

SUMMARY: This document corrects a proposed rule on examination and copying of Pension Benefit Guaranty Corporation's records that appeared at page 13474 in the **Federal Register** of Thursday, April 23, 1987 (52 FR 13474). This action is needed to correct an editorial error in the preamble.

FOR FURTHER INFORMATION CONTACT: Renae R. Hubbard, Special Counsel, Corporate Policy and Regulations Department, Code 35100, Pension Benefit Guaranty Corporation, 2020 K Street, NW., Washington, DC 20006, 202-778-8850 (202-778-8859 for TTY and TDD). These are not toll-free numbers.

The following correction is made in FR Doc. 87-9123 appearing on page 13474 in the issue of April 23, 1987: On page 13475, column one, second full paragraph, the phrase "to which would be added a new paragraph (a)(4)" is corrected to read "paragraph (a)(1) of which would be amended".

Kathleen P. Utgoff,

Executive Director, Pension Benefit Guaranty Corporation.

[FR Doc. 87-10203 Filed 5-5-87; 8:45 am]

BILLING CODE 7708-01-M

DEPARTMENT OF THE INTERIOR

Office of Surface Mining Reclamation and Enforcement

30 CFR Part 934

Public Comment Period and Opportunity for Public Hearing on an Amendment to the North Dakota Permanent Regulatory Program

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

ACTION: Proposed rule.

SUMMARY: OSMRE is announcing procedures for a public comment period and for a public hearing on the substantive adequacy of amendments submitted by the State of North Dakota to amend its permanent regulatory program (hereinafter referred to as the North Dakota Program) under the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The proposed amendment consists of revisions to the North Dakota regulatory program concerning performance bond requirements.

This notice sets forth the times and locations that the proposed amendment is available for public inspection, the comment period during which interested persons may submit written comments on the proposed program amendment and information pertinent to the public hearing

DATES: Comments not received on or before 4:00 p.m., June 5, 1987, will not necessarily be considered.

If requested, a public hearing on the proposed modifications will be held on June 1, 1987, beginning at 10:00 a.m. at the location shown below under **"ADDRESSES"**.

ADDRESSES: Written comments should be mailed or hand delivered to: Office of Surface Mining Reclamation and Enforcement, Casper Field Office, Federal Building, 100 East "B" Street, Room 2128, Casper, Wyoming 82601–1918.

If a public hearing is held, its location will be at: The North Dakota Capitol Building, Bismarck, North Dakota 58505–0165.

See **"SUPPLEMENTARY INFORMATION"** for addresses where copies of the North Dakota program amendment and administrative record on the North Dakota program are available. Each requestor may receive, free of charge, one single copy of the proposed program amendment by contacting the OSMRE Casper Field Office listed below.

FOR FURTHER INFORMATION CONTACT: Mr. Jerry R. Ennie, Director, Casper Field Office, Office of Surface Mining Reclamation and Enforcement, Federal Building, 100 East "B" Street, Room 2128, Casper, Wyoming 82601–1918; Telephone: (307) 261–5776.

SUPPLEMENTARY INFORMATION:

Availability of Copies

Copies of the North Dakota program amendment, the North Dakota program and the administrative record on the North Dakota program are available for public review and copying at the OSMRE offices and the office of the State regulatory authority listed below, Monday through Friday, 9:00 a.m. to 4:00 p.m., excluding holidays:

Casper Field Office, Office of Surface Mining Reclamation and Enforcement, Federal Building, 100 East "B" Street, Room 2128, Casper, Wyoming 82601–1918; Telephone: (307) 261–5776

Office of Surface Mining Reclamation and Enforcement, 1100 L Street, NW., Room 5131, Washington, DC 20240; Telephone (202) 343–5447.

North Dakota Public Service Commission, Reclamation Division, Capitol Building, Bismarck, North Dakota 58505–0165; Telephone (701) 224–4096.

Written Comments

Written comments should be specific, pertain only to those issues proposed in this rulemaking, and include explanations in support of the commenter's recommendations. Comments received after the time indicated under *"DATES"* or at locations other than Casper, Wyoming, will not necessarily be considered and included in the Administrative Record for this final rulemaking.

Public Hearing

Persons wishing to comment at a public hearing should contact the person listed under **"FOR FURTHER INFORMATION CONTACT"** by the close of business May 21, 1987. If no one requests to comment at a public hearing, the hearing will not be held.

If only one person requests to comment, a public meeting, rather than a public hearing, may be held and the results of the meeting included in the Administrative Record.

Filing of a written statement at the time of the hearing is requested and will greatly assist the transcriber. Submission of written statements in advance of the hearing will also allow OSMRE officials to prepare appropriate questions.

The public hearing will continue on the specified date until all persons scheduled to comment have been heard. Persons in the audience who have not been scheduled to comment and wish to do so will be heard following those scheduled. The hearing will end after all persons present in the audience who wish to comment, have been heard.

Public Meeting

Persons wishing to meet with OSMRE representatives to discuss the proposed amendments may request a meeting at the OSMRE office listed in **"ADDRESSES"** by contacting the person listed under **"FOR FURTHER INFORMATION CONTACT"**.

All such meetings are open to the public and, if possible, notices of meetings will be posted in advance in the Administrative Record. A written summary of each public meeting will be made a part of the Administrative Record.

Background

On February 29, 1980, the Secretary of the Interior received a proposed regulatory program from the State of North Dakota. On December 15, 1980, following a review of the proposed program as outlined in 30 CFR Part 732, the Secretary conditionally approved the North Dakota program (45 FR 82214).

Information pertinent to the general background of the permanent program submission, as well as the Secretary's findings, the disposition of comments and explanation of the condition of approval of the North Dakota program, can be found in the December 15, 1980 **Federal Register**. Subsequent actions concerning the North Dakota program are identified in 30 CFR 934.15.

Proposed Amendment

On April 3, 1987, the State of North Dakota submitted to OSMRE amendments to its approved permanent regulatory program. The amendments consist of proposed modifications to the North Dakota statute concerning performance bond requirements.

The proposed changes are summarized briefly below.

Performance Bond—Amount—Sufficiency of Surety—Amount of Forfeiture

1. North Dakota has amended subsection 2 of section 38–14.1–16 of the North Dakota Century Code (NDCC) concerning performance bond amount. The amended statute removes specific minimum bond amounts per acre, and relies on the more general criteria of the bond amount being sufficient to complete the reclamation plan in event of forfeiture. The minimum permit area bond of ten thousand dollars is retained.

2. North Dakota has amended subsection 7 of NDCC section 38–14.1–16 concerning sufficiency of surety. The amended statute has generally been revised for clarity. In addition, a condition stating that failure to substitute a surety within ninety days results in permit suspension, has been imposed.

Release of Performance Bond—Schedule—Notification—Public Hearing

3. North Dakota has amended subsection 7 of NDCC section 38–14.1–17 concerning criteria for performance bond release. The amended statute has generally been revised for clarity. Specifically, subsection 7(c) has been changed from release of an additional twenty percent of the bond after vegetation is established to release of an additional amount of the bond.

Therefore, the Director, OSMRE is seeking public comment on the adequacy of the proposed program amendments. Comments should specifically address whether the proposed amendments are as stringent as SMCRA and no less effective than its implementing regulations.

Additional Determinations

1. Compliance with the 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.

2. Executive Order No. 12291 and the Regulatory Flexibility Act:

On August 28, 1981, the Office of Management and Budget (OMB) granted OSMRE an exemption from section 3, 4, 7, and 8 of Executive Order 12291 for actions 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 would 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 would not impose any new requirements; rather, it would 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 Office of Management and Budget under 44 U.S.C. 3507.

List of Subjects in 30 CFR Part 934

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

Dated: April 28, 1987.

Raymond L. Lowrie

Assistant Director, Western Field Operations Office of Surface Mining Reclamation and Enforcement.

[FR Doc. 87–10244 Filed 5–5–87; 8:45am]

BILLING CODE 4310–05–M

DEPARTMENT OF DEFENSE

Office of the Secretary

32 CFR Part 155

[DoD Directive 5220.6]

Defense Industrial Personnel Security Clearance Review Program

AGENCY: Office of Secretary of Defense, DoD.

ACTION: Proposed rule.

SUMMARY: This part is being revised and reissued to (1) establish a standard for determining petitions for reimbursement for loss of earnings, (2) incorporate the revised DoD Adjudication Policies for security clearance determinations under this rule, and (3) revise procedures for cases not requiring a hearing, and procedures for considering issues raised on appeal.

DATE: Comments must be received by June 5, 1987.

ADDRESS: Directorate for Industrial Security Clearance Review, P.O. Box 3656, Arlington, Virginia 22203-1995.

FOR FURTHER INFORMATION CONTACT: Mr. James P. Brown, Director, telephone (202) 696-4599.

SUPPLEMENTARY INFORMATION: The Office of the Secretary of Defense published the last edition of this part in the **Federal Register** on September 4, 1985 (50 FR 35790), and published a change to § 155.8 on July 1, 1986. It is now being revised to incorporate the changes described in the **SUMMARY.** While publication of this notice of revision is not required under the Administrative Procedures Act, 5 U.S.C. 553(a), notice is provided voluntarily by the Department of Defense.

1. This rule does not impose a burden under the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 *et seq.*

2. This rule is not subject to the Regulatory Flexibility Act, 5 U.S.C. 601 *et seq.*

3. Although exempt under section 1.(a)(2) of E.O. 12291, the Department of Defense does not consider this rule to be a major rule under section 1.(b), E.O. 12291.

List of Subjects in 32 CFR Part 155

Administrative practice and procedure, Business and industry, Classified information, Security clearance.

Accordingly, 32 CFR Part 155 proposed to be revised to read as follows:

PART 155—DEFENSE INDUSTRIAL PERSONNEL SECURITY CLEARANCE REVIEW PROGRAM

Sec.

Authority: 5 U.S.C. 504, E.O. 10865, 3 CFR, 1959-1963 Comp., p. 398.

§ 155.1 Purpose.

This part is being reissued to update policy, the criteria, and procedures of the Defense Industrial Personnel Security Clearance Review Program under E.O. 10865.

§ 155.2 Applicability and scope.

This part:

(a) Applies to the Office of the Secretary of Defense, the Military Departments, Organization of the Joint Chiefs of Staff, and the Defense Agencies (hereafter referred to collectively as "DoD Components").

(b) By mutual agreement also extends to other Federal agencies that include:

(1) Department of Agriculture.
(2) Department of Commerce.
(3) Department of Interior.
(4) Department of Justice.
(5) Department of Labor.
(6) Department of State.
(7) Department of Transportation.
(8) Department of Treasury.
(9) Environmental Protection Agency.
(10) Federal Emergency Management Agency.
(11) Federal Reserve System.
(12) General Accounting Office.
(13) General Services Administration.
(14) National Aeronautics and Space Administration.
(15) National Science Foundation.
(16) Small Business Administration.
(17) United States Arms Control and Disarmament Agency.

(18) United States Information Agency.

(c) Applies to security clearance request cases referred by the Defense Investigative Service (DIS) or Defense Industrial Security Clearance Office (DISCO) for a determination of whether or not it is clearly consistent with the national interest to grant or continue a security clearance for access to classified information by persons employed by U.S. industry, or to U.S. citizens who are direct-hire employees or selectees for positions with NATO and who require Certificates of Security Clearance in connection with direct employment by agencies of NATO, or to Red Cross or United Service Organizations (USO) employees nominated for assignment with the Military Services overseas. These cases are referred to the Directorate for Industrial Security Clearance Review (DISCR) for action under this part.

(d) Does not apply to cases in which a security clearance is withdrawn by DISCO for administrative reasons with no finding of prejudice to a later determination as to whether the grant or continuance of applicant's security clearance would be clearly consistent with the national interest, or to cases in which an interim security clearance is withdrawn by DISCO during an investigation, or to cases in which DISCO does not transfer a security clearance.

(e) Provides a program which may be extended to other cases at the direction of the Deputy Under Secretary of Defense for Policy, or designee.

§ 155.3 Definitions.

Applicant. A person in industry who requires a security clearance for access to classified information and any U.S. citizen who is a direct-hire employee or selectee for a position with NATO and who requires NATO Certificates of Security Clearance, security assurances for access to U.S. or foreign classified information, or Red Cross or USO personnel nominated for assignment with the Military Services overseas. The term applicant does not apply to those U.S. citizens who are seconded to NATO by U.S. Departments and Agencies or to U.S. citizens recruited through such agencies in response to a request from NATO.

Cannabis. The intoxicating products of the hemp plant, Cannabis Sativa, including but not limited to marijuana, hashish, and hashish oil.

Clearance determination. A decision made in accordance with this part concerning the eligibility of the Applicant to be granted access to classified information. A favorable clearance determination establishes eligibility of the Applicant to be granted access to the level of classified information requested or required based upon the investigative type specified for that level in 32 CFR Part 154. An unfavorable clearance determination, such as suspension, denial or revocation of clearance eligibility, precludes granting access to classified information at any level and precludes the retention of any prior clearance granted.

Dangerous drugs. Any of the nonnarcotic drugs which are habit forming or have a potential for abuse because of their stimulant, depressant or hallucinogenic effect.

Narcotic. Opium and opium derivatives or synthetic substitutes.

§ 155.4 Policy.

It is the policy of the Department of Defense that:

(a) All proceedings under this part shall be conducted in a fair and impartial manner, and that any determination authorizing a security clearance for access to classified information shall be based only upon a finding that to do so is clearly consistent with the national interest. Normally, a security clearance shall not be denied or revoked without full compliance with all provisions of this part, namely,

(1) Notice to the individual of the specific reasons for the action;

(2) Affording the individual an opportunity to respond; and

(3) Notifying the individual of the right to a hearing and the opportunity to cross-examine persons providing adverse information.

(b) Upon termination of employment of the Applicant, or upon termination of an Applicant's need for access to classified information, processing under this part will be terminated except that, in those cases in which a hearing has been held, the Examiner will complete the determination in the case, and the opportunity to pursue the full appeal procedures will be offered.

(c) In cases where an Applicant's security clearance has been suspended under the provisions of § 155.6(g) and the Applicant is subsequently terminated from employment only because of the suspension, the Applicant will be offered the opportunity to pursue the full administrative procedures offered by this part.

§ 155.5 Responsibilities.

(a) *The Under Secretary of Defense for Policy (USD(P)),* or designee, shall issue investigative policies for this program, is designated the authority to issue changes to the adjudication policy, and shall be responsible for overall policy guidance and oversight.

(b) *The General Counsel, Department of Defense (GC, DoD), or designee,* shall:

(1) Administer the program established by this part.

(2) Determine the organization and composition of the requisite staff and offices.

(3) Issue guidance and instructions, as needed, to fulfill these responsibilities.

(4) Designate attorneys to be Examiners assigned to DISCR to conduct hearings and to reach clearance determinations.

(5) Designate attorneys to be members of the Appeal Board.

(6) Issue invitational travel orders to persons to appear and testify who have provided oral or written statements adverse to the applicant relating to a controverted issue.

(c) The *Director, Directorate for Industrial Security Clearance Review,* under the direction of the General Counsel, DoD, or designee, shall:

(1) Manage the program established by this part.

(2) Maintain all DISCR records.

(3) Issue guidance and instructions, as needed, to fulfill those responsibilities.

(d) *Heads of DoD Components* shall provide, from resources available to the designated DoD Component, financing, personnel and personnel spaces, office facilities, and related administrative support.

(e) *The Director, Defense Investigative Service* shall provide direction and supervision to DISCO in order to assure that cases qualifying under this part are referred promptly to DISCR as required, and that notices of determination by DISCR are acted upon by DISCO without delay.

§ 155.6 Procedures.

(a) Any applicant, as defined in § 155.3 of this part shall be investigated in accordance with the standards set forth in DoD 5200.2–R (32 CFR Part 154) and DoD 5220.22–R.[1]

(b) An applicant is required to give, and to authorize others to give full, frank, and truthful answers to relevant questions needed by DISCR to reach a security clearance determination. The applicant may elect on constitutional or other grounds not to comply. However, refusal or failure to furnish or authorize the providing of relevant information needed by DISCR at any stage in the investigation or adjudicative process may preclude DISCR from reaching the

[1] Submit request to Office of the Under Secretary of Defense for Policy, Pentagon, Washington, DC 20301.

finding required by § 155.6(c). In the event an applicant fails or refuses to provide such information, any security clearance in effect shall be administratively suspended by the Director, DISCR, and any other processing action shall be discontinued. Resumption of case processing may be approved by the Director, DISCR, only upon showing of good cause by the applicant.

(c) Each personnel security determination must be a fair and impartial overall commonsense decision based upon a consideration of all available information, both favorable and unfavorable, and must be arrived at by applying the standard that the granting (or continuance) of security clearance under this part may only be done upon a finding that to do so is clearly consistent with the national interest.

(d) Each personnel security determination shall include consideration of the following factors:

(1) The nature and seriousness of the facts, circumstances or conduct;

(2) The circumstances surrounding the conduct;

(3) The frequency and recency of the conduct;

(4) The age of the individual;

(5) The motivation of the individual, or the extent to which the conduct was negligent, willful, voluntary, or undertaken with knowledge of the circumstances or consequences involved;

(6) The absence or presence of positive evidence of rehabilitation; and

(7) To the extent that it can be estimated, the probability that the facts, conduct or circumstances will or will not continue or recur in the future.

(e) The criteria for determining eligibility for clearance under the standard shall include, but not be limited to the following:

(1) Commission of any act of sabotage, espionage, treason, terrorism, anarchy, sedition, or attempts thereat or preparation therefor, or conspiring with or aiding or abetting another to commit or attempt to commit any such act.

(2) Establishing or continuing a sympathetic association with a saboteur, spy, traitor, seditionist, anarchist, terrorist, revolutionist, or with an espionage or other secret agent or similar representative of a foreign nation whose interests may be inimical to the interests of the United States, or with any person who advocates the use of force or violence to overthrow the Government of the United States or to alter the form of Government of the United States by unconstitutional means.

(3) Advocacy or use of force or violence to overthrow the Government of the United States or to alter the form of government of the United States by unconstitutional means.

(4) Knowing membership with the specific intent of furthering the aims of, or adherence to and active participation in any foreign or domestic organization, association, movement, group or combination of persons (hereafter referred to as organizations) which unlawfully advocates or practices the commission of acts of force or violence to prevent others from exercising their rights under the Constitution or laws of the United States or of any State or which seeks to overthrow the Government of the United States or any State or subdivision thereof by unlawful means.

(5) Unauthorized disclosure to any person of classified information, or of other information, disclosure of which is prohibited by Statute, Executive Order or Regulation.

(6) Performing or attempting to perform one's duties, acceptance and active maintenance of dual citizenship, or other acts conducted in a manner which serve or could be expected to serve the interests of another government in preference to the interests of the United States.

(7) Disregard of public law, Statutes, Executive Orders or Regulations, including violation of security regulations or practices.

(8) Criminal or dishonest conduct.

(9) Acts of omission or commission that indicate poor judgment, unreliability or untrustworthiness.

(10) Any behavior or illness, including any mental condition, which, in the opinion of competent medical authority, may cause a defect in judgment or reliability with due regard to the transient or continuing effect of the illness and the medical findings in such case.

(11) Vulnerability to coercion, influence, or pressure that may cause conduct contrary to the national interest. This may be the presence of immediate family members or other persons to whom the applicant is bonded by affection or obligation in a nation (or areas under its domination) whose interests may be inimical to those of the United States, or any other circumstances that could cause the applicant to be vulnerable.

(12) Excessive indebtedness, recurring financial difficulties, or unexplained affluence.

(13) Habitual or episodic use of intoxicants to excess.

(14) Illegal or improper use, possession, transfer, sale or addiction to any controlled or psychoactive substance, narcotic, cannabis or other dangerous drug.

(15) Any knowing and willful falsification, cover-up, concealment, misrepresentation, or omission of a material fact from any written or oral statement, document, form or other representation or device used by the Department of Defense or any other Federal agency.

(16) Failing or refusing to answer or to authorize others to answer questions or provide information required by a Congressional committee, court or agency in the course of an official inquiry whenever such answers or information concern relevant and material matters pertinent to an evaluation of the individual's trustworthiness, reliability, and judgment.

(17) Acts of sexual misconduct or perversion indicative of moral turpitude, poor judgment, or lack of regard for the laws of society.

(f) The adjudication policy included as § 155.8 is binding in determining whether a person is eligible for access to classified information or assignment to sensitive duties.

(g) Whenever there is sufficient information to provide a reasonable basis for concluding that an applicant's continued access to classified information could endanger the national interest, the existing security clearance will be suspended by the Deputy Under Secretary of Defense for Policy (DUSD(P)), or designee, with the concurrence of the General Counsel, DoD (GC, DoD), or designee, pending a final determination under this part. However, in those instances where the threat to the national interest is clearly direct and imminent, the Director, DISCR, and the Director, Defense Investigative Service, are authorized to take emergency measures to suspend an existing security clearance, after consultation with the Office of the DUSD(P) and the Office of the GC, DoD. Suspension action under this part will not be taken for punitive purposes.

(h) Records compiled in the regular course of business or other physical evidence other than investigative reports, relating to a controverted issue, which, because they are classified, may not be inspected by the applicant, may be received and considered, provided the GC, DoD, has

(1) Made a preliminary determination that such evidence appears to be material, and

(2) Determines that failure to receive and consider such evidence would be

substantially harmful to the national security.

(i) A written or oral statement adverse to the applicant on a controverted issue may be received and considered without affording an opportunity to cross-examine the person making the statement only in either of the following circumstances:

(1) If the Head of the Department, or designee, supplying the statement certifies that the person who furnished the information is a confidential informant who has been engaged in obtaining intelligence information for the Government and that disclosure of his or her identity would be substantially harmful to the national interest.

(2) If the GC, DoD has preliminarily determined that the statement concerned appears to be reliable and material, and has determined that failure to receive and consider such statement would be substantially harmful to the national security, and that the person who furnished the information cannot appear to testify due to death, severe illness, or similar cause, in which case the identity of the person and the information to be considered shall be made available to the applicant, or due to some other cause determined by the Secretary of Defense, or when appropriate, by the agency head to be good and sufficient.

(j) Whenever evidence is received under § 155.6 (h) or (i), the applicant will be furnished with as comprehensive and detailed a summary of the information as the national security permits. The Examiner may make a determination either favorable or unfavorable to the applicant based on such evidence, but any final determination adverse to the applicant shall be made only by the Secretary of Defense or the agency head, based on a personal review of the case.

(k) Nothing contained in this part shall limit or affect the responsibility and powers of the Secretary of Defense or the head of another department or agency to deny or revoke a security clearance when the security of the nation so requires. Such a determination shall be conclusive. This authority may be exercised only when it has been determined that the hearing procedures and other provisions of this part cannot be invoked consistent with the national security.

§ 155.7 Additional procedural guidance.

(a) When the DIS or DISCO identify investigations in which there is a substantial question whether it would be clearly consistent with the national interest to grant or continue a security clearance for an applicant, the case shall be referred promptly to the Directorate for Industrial Security Clearance Review (DISCR) with a statement explaining the basis for referral.

(b) Upon referral, DISCR shall make a determination promptly whether to grant or continue clearance, to issue a Statement of Reasons as to why it is not clearly consistent with the national interest to do so, or to take whatever interim actions, such as

(1) To direct further investigation,

(2) To propound written interrogatories to the applicant or other persons with relevant information,

(3) To require the applicant to undergo a medical evaluation by a DoD Psychiatric Consultant,

(4) To interview the applicant in order to reach a final determination, or

(5) To recommend suspension of security clearance.

(c) A security clearance shall not be denied or revoked unless the applicant has been provided with a written Statement of Reasons. The Statement of Reasons shall be as detailed and comprehensive as the national security permits. A letter of instructions with the Statement of Reasons also shall explain that the applicant may request to have a hearing conducted after answering the Statement of Reasons and will explain the consequences for failure to respond to the Statement of Reasons within the prescribed time frame.

(d) To be entitled to a hearing the applicant first must have submitted a written answer to the Statement of Reasons under oath or affirmation which shall admit or deny each listed allegation, and must elect to have a hearing. A general denial or other similar answer is not sufficient. The answer must be specific and must be submitted to DISCR within 20 days of the receipt of the Statement of Reasons. Requests for a reasonable extension may be submitted to the Director, DISCR.

(e) When an applicant answers a Statement of Reasons as prescribed and a hearing is not requested by the applicant or by counsel (hereafter called Department Counsel) assigned to DISCR to present the case against the applicant, the determination will be made by the Examiner and will be based upon a review of the file of all relevant material which could be adduced at a hearing. The applicant will be provided a copy of the file of relevant material and will be given 20 days from receipt in which to submit documentary information in rebuttal, or to explain adverse information in the file. Once an applicant has elected not to have a hearing and has received a copy of the file of relevant material, the applicant may not, subsequently, elect to have a hearing.

(f) If the applicant does not answer the Statement of Reasons or fails to submit a responsive answer, the Director, DISCR, shall discontinue processing of the case, deny issuance of the requested clearance and shall direct DISCO to administratively suspend any clearance held by the applicant. However, should a review of applicant's answer to the Statement of Reasons indicate that all allegations are unfounded, or evidence is insufficient for further processing in accordance with the adjudication policy of § 155.8 the Director, DISCR, will take action as appropriate under the circumstances. The applicant shall be notified in writing by the Director, DISCR, if either of the above actions are taken.

(g) If the applicant answers the Statement of Reasons in writing and specifically requests a hearing, the applicant may appear in person with or without counsel or a personal representative. The applicant shall have a reasonable time to prepare his or her case. At the hearing, the applicant may present evidence on his or her behalf and, as a general rule, may cross-examine adverse witnesses, either orally or in writing. Hearings shall be conducted in the United States except for good cause based upon a petition to be filed by the applicant, or for NATO security clearance cases.

(h) The Examiner assigned to hear the case may require a prehearing conference, may rule on procedural issues to expedite the proceedings and shall conduct the proceedings in an orderly manner. Discovery by the applicant is limited to documentary material in DISCR files. Hearings will be open to spectators except when requested by the Applicant or upon request of Department Counsel based on the necessity to protect classified information or other good cause.

(i) Parties to the proceeding shall serve each other with a copy of any pleading or communication at the time of submission to the Examiner hearing the case.

(j) Upon the failure of the applicant or applicant's counsel to appear or proceed in a timely and orderly fashion, or upon the failure or refusal of applicant to answer or to authorize others to answer relevant and material questions, the proceeding shall be discontinued and the case referred to the Director, DISCR, for appropriate action to discontinue all case processing, to administratively suspend any security clearance held by

the applicant, and to deny any pending clearance request.

(k) Department Counsel is responsible for producing witnesses and information relied upon by DISCR to establish those facts alleged in the Statement of Reasons which have been controverted. The Statement of Reasons may be amended at the hearing by the Examiner, upon motion by the Department Counsel or the applicant to make it conform to the information or evidence presented. When such amendments are made, the Examiner may grant applicant's request for such additional time as the Examiner may deem appropriate to answer such amendments and to present evidence or information thereto.

(l) Applicants shall be notified in writing at least 15 days in advance of the time and place of the hearing. A continuance shall be granted only for good cause.

(m) The Examiner hearing the case shall notify the applicant and all witnesses testifying that 18 U.S.C. 1001 is applicable.

(n) Relevant and material oral, documentary, or other evidence may be received and technical rules of evidence shall be relaxed to permit the development of a full record. The Federal Rules of Evidence shall serve only as a guide.

(o) Records compiled in the regular course of business, or other physical evidence other than investigative reports, may be received and considered, subject to rebuttal without authenticating witnesses, provided that such information has been furnished by an investigative agency pursuant to its responsibilities in connection with assisting the Secretary of Defense, or the agency head concerned, to safeguard classified information within industry pursuant to Executive Order 10865.

(p) A transcript shall be made of the hearing. The applicant, and Department Counsel will be furnished one copy each of the transcript, less the exhibits, without cost.

(q) The Examiner assigned the case shall make written findings for or against the applicant with respect to each allegation in the Statement of Reasons and shall provide reasons in support of the findings normally within 30 days following the close of the hearing record whenever practical. The Examiner shall make a determination under the standard of whether or not it is clearly consistent with the national interest to grant or continue the applicant's eligibility for access to classified information. The applicant and Department Counsel shall each be provided a copy of the determination. In cases when evidence is received under § 155.6 (h) and (i), of this part, the Examiner's written determination may require deletions in the interest of national security.

(r) The applicant or Department Counsel may appeal the Examiner's determination by filing a written Notice of Appeal to the Director, DISCR, within 20 days after the date of the determination. A Notice of Appeal received after 20 days from the date of the determination will not be accepted. The Notice of Appeal merely signifies the intention to file an appeal.

(s) After filing a timely Notice of Appeal, a written appeal must be filed and received in DISCR within 60 days of the date of the Examiner's determination. The written appeal must state the specific issue or issues being raised. Issues are limited to one or more of the following:

(1) The Examiner's findings of fact are not supported by credible evidence.

(2) The Examiner's factual findings were contrary to law.

(3) The Examiner did not adhere to the procedures required by Executive Order 10865 or this part.

(4) The Examiner's rulings were arbitrary or capricious, contrary to law or not consistent with this part.

(t) The written appeal must cite specific portions of the hearing transcript or evidence in the case record to support the issue under appeal. Consideration of an appeal is limited to the issues raised on appeal. No new evidence or testimony shall be considered.

(u) Upon receipt of a timely appeal brief, a copy of the brief shall be provided to the other party in the case by the Director, DISCR. A written reply brief may be filed by the other party in the case within 30 days of receipt of the copy of the written appeal brief.

(v) Upon receipt of a timely reply brief, or expiration of the 30 day period for filing a reply, the appeal will be submitted to the Appeal Board for consideration. The Appeal Board will be provided the entire Examiner's case record and the written appeal and reply thereto.

(w) Upon consideration of the appeal, the Appeal Board will make a written determination, within 30 days whenever practical, referring to the case record, addressing the issues under appeal, and citing those portions of the case record that either support or rebut the issues of the appeal. The Appeal Board shall not review the record *de novo* nor substitute its judgment for that of the Hearing Examiners. The Appeal Board is authorized to summarily dispose of cases that raise no substantial issue or only a frivolous issue on appeal. The written determination of the Appeal Board will either affirm the Examiner's original determination, or will remand the case to the Examiner for correction of error if the issue under appeal is found to be supported by the record and applicable law.

(x) If the Appeal Board affirms the original Examiner's determination, that decision is final. If the case is remanded, the Appeal Board will specify the action to be taken on remand and the rationale or explanation for its finding. A copy of the Appeal Board's written determination will be provided to both parties.

(y) Upon remand, the entire case file, including the Appeal Board's determination will be assigned to an Examiner, who normally is the Examiner making the initial determination, for correction of the error in accordance with the Appeal Board's decision. The assigned Examiner will make a new determination in the case and may choose to affirm or reverse the original determination after correcting the error identified by the Appeal Board. The Examiner's determination after remand will be provided to both parties.

(z) A determination shall be considered final, and shall be reported by the Director, DISCR to DISCO when:

(1) No timely Notice of Appeal is received, or

(2) No timely appeal brief is filed after a Notice of Appeal has been filed, or

(3) When the Appeal Board affirms an Examiner's determination.

(aa) In cases where a security clearance is subsequently granted by DISCR after suspension, denial or revocation, and announcement of that action to DISCO, an Applicant may petition for reimbursement of loss of earnings resulting directly from the suspension, revocation, or denial of clearance. Petitions for reimbursement must be filed with the Director, DISCR, within one year after the date the claim arises (i.e., the date clearance subsequently was granted by DISCR).

(bb) A petition for reimbursement must include a written brief setting forth the Applicant's position or belief that the initial suspension, denial or revocation was not justified, and must be accompanied by information and documentation necessary to determine the amount of proposed reimbursement.

(cc) The amount of reimbursement shall not exceed the difference between the earnings of the applicant at the time of the suspension, revocation, or denial, and the interim earnings, subject to reasonable efforts on the part of the applicant to mitigate any loss of

earnings. No reimbursement shall be allowed for any period of undue delay resulting from the Applicant's acts or failure to act. Reimbursement is not authorized for loss of merit raises and general increases, loss of employment opportunities, counsel's fees and other costs relating to the industrial security clearance proceeding.

(dd) Upon receipt of the Applicant's brief, Department Counsel will be provided a copy of the brief by the Director, DISCR, and will be given 30 days to file a reply brief, setting forth the reasons why the initial suspension, denial or revocation was justified at the time it was taken.

(ee) Upon receipt of the Department Counsel's brief, or expiration of the 30 day period for filing, the correspondence, briefs and supporting documentation will be provided by the Director, DISCR, to an assigned Examiner to make the determination whether or not the initial suspension, denial or revocation was justified in accordance with the standard in § 155.9 to this part.

(ff) A reimbursement petition will not be assigned to the same Examiner who had made a clearance determination in the Applicant's case.

(gg) The Examiner will consider the information provided, and will reach a determination in accordance with the Standard in § 155.9 whether or not the Department of Defense was justified in taking the initial action to suspend, deny or revoke. The Applicant and Department Counsel will be provided copies of the Examiner's written determination, which will include the written explanation of the reasons for the determination. The Examiner also must state his conclusion whether or not it is fair to reimburse the Applicant and, if a determination is made to extend reimbursement, the appropriate amount. The Examiner's reimbursement determination is final.

(hh) Approval of a reimbursement claim for a non-DoD agency case will be forwarded to the agency concerned for payment. DoD reimbursement claims approved shall be forwarded to the Department of Army for payment from "Claims, Defense" appropriation in the same manner that Federal tort claims are processed. Payment of approved claims shall be made upon execution by the Applicant of a "Claims Settlement Agreement", DA Form 1666. In the event a claims settlement agreement cannot be executed due to the death or disability of an Applicant, the claims settlement agreement will be executed and payment made in accordance with the law of the State of the residence of the Applicant at the time of his death or disability. If an Applicant fails or refuses to execute a claims settlement agreement, the claim will be returned to the Director, DISCR, for cancellation of the claim. Any payment made in response to a claim for reimbursement shall be in full satisfaction of any further claim against the United States or Federal agency, or any of its officers, agents or employees.

(ii) Resumption of case processing after an applicant's clearance has been administratively suspended and processing had been discontinued at applicant's request or due to applicant's failure or refusal to provide requested information, or to proceed in a timely and orderly manner, or to respond to a Statement of Reasons, only shall be considered upon request submitted by the applicant and upon a showing of good cause. Requests should be submitted to the Director, DISCR. All such requests only can be approved by the GC, DoD, or designee. Reinstatement of a clearance that had been administratively suspended when processing had been discontinued, or when clearance had been suspended under the provisions of § 155.6(g) of this part, is not authorized unless and until a final favorable determination is made under the provisions of this part that it is clearly consistent with the national interest to grant or continue the applicant's eligibility for access to classified information.

§ 155.8 Adjudication policy.

(a) *General.* The following adjudication policy has been developed to assist DoD adjudicators in making determinations with respect to an individual's eligibility for employment or retention in sensitive duties or eligibility for access to classified information. While reasonable consistency in reaching adjudication determinations is desirable, the nature and complexities of human behavior preclude the development of a single set of guidelines or policies that is equally applicable in every personnel security case. Accordingly, the following adjudication policy is not intended to be interpreted as inflexible rules of procedure. The following policy requires dependence on the adjudicator's sound judgment, mature thinking, and careful analysis as each case must be weighed on its own merits, taking into consideration all relevant circumstances, and prior experience in similar cases as well as the guidelines contained in the adjudication policy, which have been compiled from common experience in personnel security determinations. Each adjudication is to be an overall common sense determination based upon consideration and assessment of all available information, both favorable and unfavorable, with particular emphasis being placed on the seriousness, recency, frequency and motivation for the individual's conduct; the extent to which conduct was negligent, willful, voluntary, or undertaken with knowledge of the circumstances or consequences involved; and, to the extent that it can be estimated, the probability that conduct will or will not continue in the future. The listed "Disqualifying Factors" and "Mitigating Factors" in this set of Adjudication Policies reflect the consideration of those factors of seriousness, recency, frequency, motivation, etc., to common situations and types of behavior encountered in personnel security adjudications, and should be followed whenever an individual case can be measured against this policy guidance. Common sense may occasionally necessitate deviations from this policy guidance, but such deviations should not be frequently made and must be carefully explained and documented. The "Disqualifying Factors" provided establish some of the types of serious conduct under the criteria that can justify a determination to deny or revoke an individual's eligibility for access to classified information, or appointment to, or retention in sensitive duties. The "Mitigating Factors" establish some of the types of circumstances that may mitigate the conduct listed under the "Disqualifying Factors". Any determination must include a consideration of both the conduct listed under "Disqualifying Factors" and any circumstances listed under the appropriate or corresponding "Mitigating Factors". The adjudication policy is subdivided into sections appropriate to each of the criteria provided in § 155.6 of this part, except § 155.6(9), for which conduct under any of the "Disqualifying Factors" of the adjudication policy or any other types of conduct may be appropriately included, if it meets the definition of § 155.6(9). In all adjudications, the protection of the national security shall be the paramount determinant. In the last analysis, final decision in each case must be arrived at by applying the standard that the issuance of the clearance or assignment to the sensitive position is "clearly consistent with the interests of national security."

(b) *Loyalty* [See § 155.6(e) (1), (2), (3) and (4)]. The basis is commission of any act of sabotage, espionage, treason, terrorism, anarchy, sedition, or attempts thereat or preparation therefor, or

conspiring with or aiding or abetting another to commit or attempt to commit any such act. Establishing or continuing a sympathetic association with a saboteur, spy, traitor, seditionist, anarchist, terrorist, revolutionist, or with an espionage or other secret agent or similar representative of a foreign nation whose interests may be inimical to the interests of the United States, or with any person who advocates the use of force or violence to overthrow the Government of the United States or to alter the form of Government of the United States by unconstitutional means. Advocacy or use of force or violence to overthrow the Government of the United States or alter the form of Government of the United States by unconstitutional means. Knowing membership with the specific intent of furthering the aims of, or adherence to and active participation in any foreign or domestic organization, association, movement, group or combination of persons (hereafter referred to as organizations) which unlawfully advocates or practices the commission of acts of force or violence to prevent others from exercising their rights under the Constitution or laws of the United States or of any State or which seeks to overthrow the Government of the United States or any State or subdivision thereof by unlawful means.

(1) *The disqualifying factors,* when behavior falls within one or more of the following categories, are:

(i) Furnishing a representative of a foreign government information or data which could damage the national security of the United States.

(ii) Membership in an organization that has been characterized by the Department of Justice as one which meets the criteria in § 155.8(b).

(iii) Knowing participation in acts that involve force or violence or threats of force or violence to prevent others from exercising their rights under the Constitution or to overthrow or alter the form of government of the United States or of any State.

(iv) Monetary contributions, service, or other support of the organization defined in § 155.8(b) with the intent of furthering the unlawful objectives of the organization.

(v) Participation, support, aid comfort or sympathetic association with persons, groups, organizations involved in terrorist activities, threats, or acts.

(vi) Evidence of continuing sympathy with the unlawful aims and objectives of such an organization, as defined in § 155.8(b).

(vii) Holding position of major doctrinal or managerial influence in an organization, as defined in § 155.8(b).

(2) *The mitigating factors,* which are circumstances which may mitigate disqualifying information, are:

(i) Lack of knowledge or understanding of the unlawful aims of the organization.

(ii) Affiliation or activity occurred during adolescent/young adult years (17-25), more than 5 years has passed since affiliation was severed, and affiliation was due to immaturity.

(iii) Affiliation for less than a year out of curiosity or academic interest.

(iv) Sympathy or support limited to the lawful objectives of the organization.

(c) *Foreign preference* [See § 155.6(e)(6)]. The basis is performing or attempting to perform one's duties, acceptance and active maintenance of dual citizenship, or other acts conducted in a manner which serve or which could be expected to serve the interests of another government in preference to the interests of the United States.

(1) *The Disqualifying factors,* when behavior falls within one or more of the following categories, are:

(i) The active maintenance of dual citizenship, by one or more of the following:

(A) Possession of a passport issued by a foreign nation and use of this passport to obtain legal entry into any sovereign state in preference to use of a U.S. passport.

(B) Military service in the armed forces of a foreign nation or the willingness to comply with an obligation to so serve, or the willingness to bear arms at any time in the future on behalf of the foreign state.

(C) Exercise or acceptance of rights, privileges or benefits offered by the foreign state to its citizens, (e.g., voting in a foreign election; receipt of honors or titles; financial compensation due to employment/retirement, educational or medical or other social welfare benefits), in preference to those of the United States.

(D) Travel to or residence in the foreign state for the purpose of fulfilling citizenship requirements or obligations.

(E) Maintenance of dual citizenship to protect financial interests, to include property ownership or inheritance rights in the foreign state.

(F) Registration for military service or registration with a foreign office, embassy or consulate to obtain benefits.

(ii) Employment as an agent or other official representative of a foreign government, or seeking or holding political office in foreign state.

(iii) Use of a U.S. Government position of trust or responsibility to influence decisions in order to serve the interests of another government in preference to those of the United States.

(2) *The mitigating factors,* which are circumstances which may mitigate disqualifying information, are:

(i) Claim of dual citizenship is with a foreign country whose interests are not inimical to those of the United States and is based solely on applicant's or applicant's parent(s)' birth, the applicant has not actively maintained citizenship in the last ten years and indicates he or she will not in the future act so as to pursue this claim.

(ii) Military service while a U.S. citizen was in the armed forces of a state whose interests are not inimical to those of the United States and such service was officially sanctioned by United States authorities.

(iii) Employment is as a consultant only and services provided is of the type sanctioned by the United States government.

(d) *Security responsibility safeguards* [See § 155.6(e) (5) and (7)]. The basis is disregard of public law, Statutes, Executive Orders or Regulations including violation of security regulations or practices, or unauthorized disclosure to any person of classified information, or other information, disclosure of which is prohibited by Statute, Executive Order or Regulation.

(1) *The disqualifying factors,* when behavior falls within one or more of the following categories, are:

(i) Deliberate or reckless disregard of security regulations, public law, statutes or Executive Orders which could have resulted in the loss or compromise of classified information.

(ii) Deliberate or reckless violations of security regulations, including, but not limited to taking classified information home or carrying classified data while in a travel status without proper authorization, intentionally copying classified document in order to obscure classification markings, disseminating classified information to cleared personnel who have no "need to know", or disclosing classified information, or other information, disclosure of which is prohibited by Statute, Executive Order or Regulation, to persons who are not cleared or authorized to receive it.

(iii) Pattern of negligent conduct in handling or storing classified documents.

(2) *The mitigating factors,* which are circumstances which may mitigate disqualifying information, are:

(i) Violation of security procedures was directly caused or significantly contributed to by an improper or inadequate security briefing, provided the individual reasonably relied on such briefing in good faith.

(ii) Individual is personally responsible for a large volume of classified information and the violation was merely administrative in nature.

(iii) Security violation was merely an isolated incident not involving deliberate or reckless violation of security policies, practices or procedures.

(e) *Criminal conduct* [See § 155.6(e)(8)]. The basis is criminal or dishonest conduct when it is determined that an applicant for a security clearance, or a person holding a clearance, has engaged in conduct which would constitute a felony under the laws of the United States, the clearance of such person shall be denied or revoked unless it is determined that there are compelling reasons to grant or continue such clearance. Compelling reasons can only be shown by clear and convincing evidence of the following:

(1) The felonious conduct:

(i) Did not involve an exceptionally grave offense;

(ii) Was an isolated episode; and

(iii) The individual has demonstrated trustworthiness and respect for the law over an extended period since the offense occurred; or

(2) The felonious conduct:

(i) Did not involve an exceptionally grave offense;

(ii) Was an isolated episode;

(iii) Was due to the immaturity of the individual at the time it occurred; and

(iv) The individual has demonstrated maturity, trustworthiness, and respect for the law since that time; or

(3) In cases where the individual has committed felonious conduct but was not convicted of a felony, there are extenuating circumstances which mitigate the seriousness of the conduct such that it does not reflect a lack of trustworthiness or respect for the law.

(4) These criteria supersede all criteria previously used to adjudicate criminal conduct involving commission of felonies under the laws of the United States. Involvement in criminal activities which does not constitute a felony under the laws of the United States shall be evaluated in accordance with the criteria in § 155.8(e)(5). (For purposes of this paragraph, the term "felony" means any crime punishable by imprisonment for more than a year. The term "exceptionally grave offense" includes crimes against the Federal Government, its instrumentalities, officers, employees or agents; or involves dishonesty, fraud, bribery or false statement; or involves breach of trust or fiduciary duty; or involves serious threats to life or public safety.)

(5) *The disqualifying factors*, when behavior falls within one or more of the following categories, are:

(i) Criminal conduct involving:

(A) Commission of a state felony.

(B) Force, coercion, or intimidation.

(C) Firearms, explosives, or other weapons.

(D) Dishonesty or false statements, e.g., fraud, theft, embezzlement, falsification of documents or statements.

(E) Obstruction or corruption of government functions.

(F) Deprivation of civil rights.

(G) Violence against persons.

(ii) Criminal conduct punishable by confinement for one year or more.

(iii) An established pattern of criminal conduct, whether the individual was convicted or not.

(iv) Failure to complete a rehabilitation program resulting from disposition of a criminal proceeding or violation of probation, even if the violation did not result in formal revocation of probation. Rehabilitation should not be considered a success or failure while the individual is still on parole/probation.

(v) Criminal conduct that is so recent in time as to preclude a determination that recurrence is unlikely.

(vi) Close and continuing association with persons known to the individual to be involved in criminal activities.

(vii) Criminal conduct indicative of a serious mental aberration, lack of remorse, or insufficient probability of rehabilitative success, (e.g., spouse or child abuse).

(viii) *Disposition.* (A) Conviction.

(B) Disposition on a legal issue not going to the merits of the crime.

(C) Arrest or indictment pending trial when there is evidence that the individual engaged in the criminal conduct for which arrested or indicted.

(ix) *Arrest record.* In evaluating an arrest record, information that indicates that the individual was acquitted, that the charges were dropped or the subject of a "stet" or "nolle prosequi", that the record was expunged, or that the case was dismissed due to error not going to the merits, does not negate the security significance of the underlying conduct. Personnel security determinations are to be made on the basis of all available information concerning a person's conduct and actions rather than the legal outcome of a criminal proceeding.

(6) *The mitigating factors*, which are circumstances which may mitigate disqualifying information, are:

(i) Immaturity attributable to the age of the individual at the time of the offense.

(ii) Extenuating circumstances surrounding the offense.

(iii) Circumstances indicating that the actual offense was less serious than the offense charged.

(iv) Isolated nature of the conduct.

(v) Conduct occurring only in the distant past (such as more than 5 years in the past) in the absence of subsequent criminal conduct.

(vi) Transitory conditions directly or significantly contributing to the conduct (such as divorce action, death in family, severe provocation) in the absence of subsequent criminal conduct.

(f) *Mental or emotional disorders* [See § 155.6(e)(10)]. The basis is any behavior or illness, including any mental condition, which, in the opinion of competent medical authority, may cause a defect in judgment or reliability with due regard to the transient or continuing effect of the illness and the medical findings in such case.

(1) *The disqualifying factors*, when behavior or condition falls within one or more of the following categories, are:

(i) Diagnosis by competent medical authority (board certified psychiatrist or clinical psychologist) that the individual has an illness or mental condition which may result in a significant defect in judgment or reliability.

(ii) Conduct or personality traits that are bizarre or reflect abnormal behavior or instability even though there has been no history of mental illness or treatment, but which nevertheless, in the opinion of competent medical authority may cause a defect in judgment or reliability.

(iii) A diagnosis by competent medical authority that the individual suffers from mental or intellectual incompetence or mental retardation to a degree significant enough to establish or suggest that the individual could not recognize, understand or comprehend the necessity of security regulations, or procedures, or that judgment or reliability are significantly impaired, or that the individual could be influenced or swayed to act contrary to the national security.

(iv) Diagnosis by competent medical authority that an illness or condition that had affected judgment or reliability may recur even though the individual currently manifests no symptoms, or symptoms currently are reduced or in remission.

(v) Failure to take prescribed medication or participate in treatment (including follow-up treatment or aftercare), or otherwise failing to follow medical advice relating to treatment of the illness or mental condition.

(2) *The mitigating factors*, which are circumstance which may mitigate disqualifying information, are:

(i) Diagnosis by competent medical authority that an individual's previous mental or emotional illness or condition that did cause significant defect in judgment or reliability is cured and has no probability of recurrence, or such a minimal probability of recurrence as to reasonably estimate there will be none.

(ii) Conduct or personality traits that are bizarre or reflect abnormal behavior or instability even though there has been no history of mental illness or treatment, but which nevertheless, in the opinion of competent medical authority may cause a defect in judgment or reliability.

(iii) A diagnosis by competent medical authority that the individual suffers from mental or intellectual incompetence or mental retardation to a degree significant enough to establish or suggest that the individual could not recognize, understand or comprehend the necessity of security regulations, or procedures, or that judgment or reliability are significantly impaired, or that the individual could be influenced or swayed to act contrary to the national security.

(iv) Diagnosis by competent medical authority that an illness or condition that had affected judgment or reliability may recur even though the individual currently manifests no symptoms, or symptoms currently are reduced or in remission.

(v) Failure to take prescribed medication or participate in treatment (including follow-up treatment or aftercare), or otherwise failing to follow medical advice relating to treatment of the illness or mental condition.

(2) *The mitigating factors,* which are circumstance which may mitigate disqualifying information, are:

(i) Diagnosis by competent medical authority that an individual's previous mental or emotional illness or condition that did cause significant defect in judgment or reliability is cured and has no probability of recurrence, or such a minimal probability of recurrence as to reasonably estimate there will be none.

(ii) The contributing factors or circumstances which caused the bizarre conduct or traits, abnormal behavior, or defect in judgment and reliability have been eliminated or rectified, there is a corresponding alleviation of the individual's condition and the contributing factors or circumstances are not expected to recur.

(iii) Evidence of the individual's continued reliable use of prescribed medication for a period of at least two years, without recurrence and testimony by competent medical authority that continued maintenance of prescribed medication is medically practical and likely to preclude recurrence of the illness or condition affecting judgment or reliability.

(iv) There has been no evidence of a psychotic condition, a serious or disabling neurotic disorder, or a serious character or personality disorder for the past 10 years.

(g) *Foreign connections/vulnerability to blackmail or coercion* [See § 155.6(e)(11)]. The basis is vulnerability to coercion, influence, or pressure that may cause conduct contrary to the national interest. This may be the presence of immediate family members or other persons to whom the applicant is bonded by affection or obligation in a nation (or areas under its domination) whose interests may be inimical to those of the United States, or any other circumstances that could cause the applicant to be vulnerable.

(1) *The Disqualifying Factors,* when behavior falls within one or more of the following categories, are:

(i) Indications that the individual now is being blackmailed, pressured or coerced by any individual, group, association, organization or government.

(ii) Indications that a vulnerable individual actually has been targeted and/or approached for possible blackmail, coercion or pressure by any individual, group, association, organization or government.

(iii) Indications that the individual has acted to increase the vulnerability for future possible blackmail, coercion or pressure by any individual, group, association, organization or governments, especially by or in a country designated hostile to the United States (See attached list of designated countries). Indicators include, but are not limited to the following:

(A) Failure to report to security officials any evidence, indication of suspicion that mail to relatives has been opened, unusually delayed or tampered with in any way, or that telephone calls have been monitored.

(B) An increase in curiosity or official or quasi-official inquiries about the individual to relatives in the country where they reside occasioned by the receipt of mail, packages, telephone calls or visits from the individual.

(C) Contact with or visits by officials to the individual while visiting relatives in another country to learn more about the individual, or the individual's employment or residence, etc.

(D) Unreported attempts to obtain classified or other sensitive information or data by representatives of a foreign country.

(iv) Conduct or actions by the individual while visiting in a country hostile to the United States that increase the individual's vulnerability to be targeted for possible blackmail, coercion or pressure. These include, but are not limited to the following:

(A) Violation of any laws of the foreign country where relatives reside during visits or through mailing letters or packages (e.g., smuggling, currency exchange violations, unauthorized mailings, violations of postal regulations of the country, or any criminal conduct, including traffic violations), which may call the attention of officials to the individual.

(B) Frequent and regular visits, correspondence, or telephone contact with relatives in the country where they reside, increasing the likelihood of official notice.

(C) Failure to report to security officials those inquiries by friends or relatives for more than a normal level of curiosity concerning the individual's employment, sensitive duties, military service or access to classified information.

(D) Repeated telephone or written requests to the foreign government officials for official favors, permits, visas, travel permission, or similar requests which increase the likelihood of official notice.

(E) Reckless conduct, open or public misbehavior or commission of acts contrary to local customs or laws, or which violate the mores of the foreign country and increase the likelihood of official notice.

(F) Falsification of documents, lying to officials, harassing or taunting officials or otherwise acting to cause an increase in the likelihood of official notice or to increase the individual's vulnerability because personal freedom could be jeopardized.

(G) Commission of any illicit sexual act, drug purchase or use, drunkenness or similar conduct which increases the likelihood of official notice, or which increases the individual's vulnerability because personal freedom could be jeopardized.

(v) Conduct or actions by the individual that increase the individual's vulnerability to possible coercion, blackmail or pressure, regardless of the country in which it occurred, including, but is not limited to the following:

(A) Concealment or attempts to conceal from an employer prior unfavorable employment history, criminal conduct, mental or emotional disorders or treatment, drug or alcohol use, sexual preference or sexual misconduct described under that section below, or fraudulent credentials or qualifications for employment.

(B) Concealment or attempts to conceal from immediate family

members, or close associates, supervisors or coworkers, criminal conduct, mental or emotional disorders or treatment, drug or alcohol abuse, sexual preference or sexual misconduct described under that section below.

(2) *The mitigating factors,* which are circumstance which may mitigate disqualifying information, are:

(i) The individual:

(A) Receives no financial assistance from persons or organizations in the designated country.

(B) Has been in the United States for at least 5 years since becoming a U.S. citizen without significant contact with persons or organizations from the designated country (each year of active service in the United States military may be counted).

(C) Has close ties of affection to immediate family members in the United States.

(D) Has adapted to the lifestyle in the United States, established substantive financial or other associations with U.S. enterprises or community activities.

(E) Prefers the way of life and form of government in the U.S. over the other country.

(F) Is willing to defend the U.S. against all threats including the designated country in question.

(G) Has not divulged the degree of association with the U.S. government or access to classified information to individuals in the designated country in question.

(H) Has not been contacted or approached by anyone or any organization from a designated country to provide information or favors, or to otherwise act for a person or organization in the designated country in question.

(I) Has promptly reported to proper authorities all attempted contacts, requests or threats from persons or organizations from the designated country.

(J) The individual is aware of the possible vulnerability to attempts of blackmail or coercion and has taken positive steps to reduce or eliminate such vulnerability.

(3) The list of designated countries referred to in § 155.8(g) are Afghanistan, Albania, Angola, Bulgaria, Cambodia (Kampuchea), People's Republic of China (including Tibet), Cuba, Czechoslovakia, Ethiopia, German Democratic Republic (East Germany including the Soviet Sector of Berlin), Hungary, Iran, Iraq, Laos, Libyan Arab Republic, Mongolian People's Republic (Outer Mongolia), Nicaragua, North Korea, Outer Mongolia, Poland, Rumania, Southern Yemen, Syria, Union of Soviet Socialist Republics (including Estonia, Latvia, Lithuania and all other constituent republics, Kurile Islands, and South Sakhalin (Karafutc)), Vietnam, Yugoslavia.

(h) *Financial matters* [See § 155.6(e)(12)]. The basis is excessive indebtedness, recurring financial difficulties, or unexplained affluence.

(1) *The disqualifying factors,* when behavior falls within one or more of the following categories, are:

(i) History of bad debts, garnishments, liens, repossessions, unfavorable judgments, delinquent or uncollectable accounts or debts written off by creditors as uncollectable losses with little or no apparent or voluntary effort by the individual to pay amounts owed.

(ii) Bankruptcy:

(A) Due to financial irresponsibility, or

(B) With continuing financial irresponsibility thereafter.

(iii) Indebtedness aggravated or caused by gambling, alcohol, drug abuse, or other factors indicating poor judgment or financial irresponsibility.

(iv) A history or pattern of living beyond the person's financial means or ability to pay, a lifestyle reflecting irresponsible expenditures that exceed income or assets, or a history or pattern of writing checks not covered by sufficient funds or on closed accounts.

(v) Indication of deceit or deception in obtaining credit or bank accounts, misappropriation of funds, income tax evasion, embezzlement, fraud, or attempts to evade lawful creditors.

(vi) Indifference to or disregard of financial obligations or indebtedness or intention not to meet or satisfy lawful financial obligations, or when present expenses exceed net income.

(vii) Unexplained affluence or income derived from illegal gambling, drug trafficking or other criminal or nefarious means.

(viii) Significant unexplained increase in an individual's net worth.

(2) *The mitigating factors,* which are circumstances which may mitigate disqualifying information, are:

(i) Scheduled program or systematic efforts demonstrated over a period of time (generally one year) to satisfy creditors, to acknowledge debts and arrange for reduced payments, entry into debt-consolidation program or seeking the advice and assistance of financial counselors or court supervised payment program.

(ii) Change to a more responsible lifestyle, reduction of credit card accounts, and favorable change in financial habits over a period of time (generally one year).

(iii) Stable employment record and favorable financial references.

(iv) Unforeseen circumstances beyond the individual's control (e.g., major or catastrophic illness or surgery, accidental loss of property or assets not covered by insurance, decrease or cutoff of income, indebtedness resulting from court judgments not due to the individual's financial mismanagement), provided the individual demonstrates efforts to respond to the indebtedness in a reasonable and responsible fashion.

(v) Indebtedness due to failure of legitimate business efforts or business-related bankruptcy without evidence of fault or financial irresponsibility on the part of the individual, irresponsible mismanagement of an individual's funds by another who had fiduciary control or access to them without the individual's knowledge, or loss of assets as a victim of fraud or deceit, provided the individual demonstrates efforts to respond to the indebtedness in a reasonable and responsible fashion.

(vi) Any significant increase in net worth was due to legitimate business interests, inheritance or similar legal explanation.

(i) *Alcohol abuse* [See § 155.6(e)(13)]. The basis is habitual or episodic use of intoxicants to excess.

(1) *The disqualifying factors,* when behavior falls within one or more of the following categories, are:

(i) Habitual or episodic consumption of alcohol to the point of impairment or intoxication.

(ii) Alcohol-related incidents such as traffic violations, fighting, child or spouse abuse, non-traffic violation or other criminal incidents related to alcohol use.

(iii) Deterioration of the individual's health or physical or mental condition due to alcohol use or abuse.

(iv) Drinking on the job, reporting for work in an intoxicated or "hungover" condition, tardiness or absences caused by or related to alcohol abuse, and impairment or intoxication occurring during, and immediately following, luncheon breaks.

(v) Refusal or failure to accept counseling or professional help for alcohol abuse or alcoholism.

(vi) Refusal or failure to follow medical advice relating to alcohol abuse treatment or to abstain from alcohol use despite medical or professional advice.

(vii) Refusal or failure to significantly decrease consumption of alcohol or to change lifestyle and habits which contributed to past alcohol-related difficulties.

(viii) Indications of financial or other irresponsibility or unreliability caused by alcohol abuse, or discussing sensitive or classified information while drinking.

(ix) Failure to cooperate in or successfully complete a prescribed regimen of an alcohol abuse rehabilitation program.

(2) The *Mitigating factors*, which are circumstance which may mitigate disqualifying information, are:

(i) Successfully completed an alcohol awareness program following two or less alcohol-related incidents and has significantly reduced alcohol consumption, and made positive changes in lifestyle and improvement in job reliability.

(ii) Successfully completed an alcohol rehabilitation program after three or more alcohol-related incidents, has significantly reduced or eliminated alcohol consumption in accordance with medical or professional advice, regularly attended Alcoholics Anonymous or similar support organization for approximately one year after rehabilitation, and abstained from the use of alcohol for that period.

(iii) Whenever one of the following situations occurs, the individual must have successfully completed an alcohol rehabilitation or detoxification program and totally abstained from alcohol for a period of approximately two years:

(A) The individual has had one previously failed rehabilitation program and subsequent alcohol abuse or alcohol-related incidents.

(B) The individual has been diagnosed by competent medical or health authority as an alcoholic, alcoholic dependent or chronic abuser of alcohol.

(iv) Whenever the individual has had repeated unsuccessful rehabilitation efforts and has continued drinking or has been involved in additional alcohol-related incidents, then the individual must have successfully completed an alcohol rehabilitation or detoxification program, totally abstained from alcohol for a period of at least three years and maintained regular and frequent participation in meetings of Alcoholics Anonymous or similar organizations.

(v) If an individual's alcohol abuse was surfaced solely as a result of self referral to an alcohol abuse program and there have been no precipitating factors such as alcohol related arrests or incidents, action will not normally be taken to suspend or revoke security clearance solely on the self referral for treatment.

(j) *Drug Abuse* [See § 155.6(e)(14)]. The basis is the illegal or improper use, possession, transfer, sale or addiction to any controlled or psychoactive substance, narcotic, cannabis, or other dangerous drug.

(1) *The Disqualifying Factors*, when behavior falls within one or more of the following categories, are:

(i) Abuse of cannabis only, not in combination with any other substance.

(A) Experimental abuse, defined as an average of once every two months or less, but no more than six times.

(B) Occasional abuse, defined as an average of not more than once every month.

(C) Frequent abuse, defined as an average of not more than once a week.

(D) Regular abuse, defined as an average of more than once a week.

(E) Compulsive use, habitual use, physical or psychological dependency, or use once a day or more on the average.

(ii) Abuse of any narcotic, psychoactive substance or dangerous drug (to include prescription drugs), either alone, or in combination with another or cannabis, as follows:

(A) Experimental abuse, defined as an average of once every two months, or less, but no more than six times.

(B) Occasional abuse, defined as an average of not more than once a month.

(C) Frequent abuse, defined as an average of not more than once a week.

(D) Regular abuse, defined as an average of more than once a week.

(E) Compulsive use, habitual use, physical or psychological dependency, or use on an average of once a day or more on the average.

(iii) Involvement to any degree in the unauthorized trafficking, cultivation, processing, manufacture, sale, or distribution of any narcotic, dangerous drug, or cannabis or assistance to those involved in such acts whether or not the individual was arrested for such activity.

(iv) Involvement with narcotics, dangerous drugs or cannabis under the following conditions whether or not the individual engages in personal use:

(A) Possession.

(B) Possession of a substantial amount, more than could reasonably be expected for personal use.

(C) Possession of drug paraphernalia for cultivating, manufacturing or distributing (e.g., possession of gram scales, smoking devices, needles for injecting intravenously, empty capsules or other drug production chemical paraphernalia.

(D) Possession of personal drug paraphernalia such as needles for injecting, smoking devices and equipment, etc.

(v) Information that the individual intends to continue to use (regardless of frequency) any narcotic, dangerous drug or cannabis.

Note.—There is no corresponding Mitigating Factor for this Disqualifying Factor because it is DoD policy that, as a general rule, if any individual expresses or implies any intent to continue use of any narcotic, dangerous drug, or other controlled substances, including marijuana and hashish, without a prescription, in any amount and regardless of frequency, it is to be considered contrary to the national interest and the interests of national security to grant or allow retention of a security clearance for access to classified information for that individual.

(2) *The mitigating factors*, which are circumstances which may mitigate disqualifying information, are:

(i) For abuse of cannabis only, use this to assess Disqualifying Factor § 155.8(j)(1)(i), as follows:

(A) Experimental abuse, which occurred more than six months ago, and the individual has demonstrated an intent not to use cannabis or any other narcotic, psychoactive substance or dangerous drug in the future.

(B) Occasional abuse of cannabis, which occurred more than 12 months ago, and the individual has demonstrated an intent not to use cannabis or any other narcotic, dangerous drug or psychoactive substance in the future.

(C) Frequent abuse of cannabis occurred more than 18 months ago, and the individual has demonstrated an intent not to use cannabis or any other narcotic, dangerous drug or psychoactive substance in the future.

(D) Regular abuse of cannabis occurred more than two years ago, and the individual has demonstrated an intent not to use cannabis or any other narcotic dangerous drug or psychoactive substance in the future.

(E) Compulsive, habitual use or physical or psychological dependency on cannabis occurred more than three years ago, the individual has demonstrated an intent not to use cannabis or any other narcotic, dangerous drug or psychoactive substance in the future and has demonstrated a stable life-style, with no indication of physical or psychological dependence.

(ii) For abuse *other than* cannabis alone, use this to assess Disqualifying Factor § 155.8(j)(1)(ii). Use is considered cumulative and each separate substance must not be considered separately.

(A) Experimental abuse occurred more than 12 months ago, the individual has demonstrated an intent not to use any drugs or cannabis in the future.

(B) Occasional abuse occurred more than two years ago, the individual has demonstrated an intent not to use any drugs or cannabis in the future, has a stable life-style, and satisfactory employment record.

(C) Frequent abuse occurred more than three years ago, and the individual

has demonstrated an intent not to use any drugs or cannabis in the future, has a stable life-style, including satisfactory employment record with no further indication of drug abuse.

(D) Regular abuse occurred more than four years ago, the individual has demonstrated an intent not to use any drugs or cannabis in the future, has a stable life-style, including satisfactory employment record with no further indication of drug abuse.

(iii) Use this only to assess conduct under Disqualifying Factor § 155.8(j)(1)(iii).

(A) Involvement in trafficking, cultivation, processing, manufacture, sale or distribution occurred more than five years ago and the individual has demonstrated an intent not to do so in the future, and has a stable life-style and satisfactory employment record and has not been involved in any other criminal activity.

(B) Cultivation was for personal use only, in a limited amount for a limited period and the individual has not been involved in similar activity or other criminal activity for more than three years and the individual has demonstrated an intent not to do so again in the future.

(C) Illegal sale or distribution involve only the casual supply to friends of small amounts (not for profit or to finance a personal supply) and occurred on only a few occasions more than two years ago, and the individual has demonstrated an intent not to do so again in the future.

(iv) Use this only to assess conduct under Disqualifying Factor § 155.8(j)(1)(iv).

(A) No possession of drugs or other criminal activity in the last two years.

(B) The individual has not possessed drugs in the last three years and has had no other criminal activity in the last three years and has demonstrated an intent not to be involved in such activity in the future.

(C) The individual has not possessed drug paraphernalia used in processing, manufacture or distribution for the last five years and has had no other criminal activity in the last five years and has demonstrated an intent not be involved in such activity in the future.

(D) The individual has not possessed drug paraphernalia for personal use in the last year and has had no other criminal activity in the last two years and has demonstrated an intent not to be involved in such activity in the future.

(k) *Falsification* [See § 155.6(c)(15)]. The basis is any knowing and willful falsification, cover-up, concealment, misrepresentation, or omission of a material fact from any written or oral statement, document, form or other representation or device used by the Department of Defense or any other Federal agency.

(1) *The disqualifying factors,* when behavior falls within one or more of the following categories, are:

(i) Deliberate omission, concealment, falsification or misrepresentation of relevant and material facts including, but not limited to information concerning arrests, drug abuse or treatment, alcohol abuse or treatment, treatment for mental or emotional disorders, bankruptcy, military service information, organizational affiliations, financial problems, employment, foreign travel, or foreign connections from any Personnel Security Questionnaire, Personal History Statement or similar form used by any Federal agency to conduct investigations, determine employment qualifications, award benefits or status, determine security clearance or access eligibility, or award fiduciary responsibilities.

(ii) Deliberately providing false or misleading information concerning any of the relevant and material matters listed above to an investigator, employer, supervisor, security official or other official representative in connection with application for security clearance or access to classified information or assignment to sensitive duties.

(2) *The mitigating factors,* which are circumstances which may mitigate disqualifying information, are:

(i) The information was not relevant or material to reaching a security clearance or access determination.

(ii) The falsification was an isolated incident in the distant past (more than 5 years) and the individual subsequently had accurately provided correct information voluntarily during reapplication for clearance or access, and there is no evidence of any other falsification, misrepresentation or dishonest conduct by the individual.

(iii) The behavior was not willful.

(iv) The falsification was done unknowingly or without the individual's knowledge.

(v) The individual made prompt, good faith efforts to correct the falsification before being confronted with the facts of falsification.

(vi) Omission of material fact was caused by or significantly contributed to by improper or inadequate advice of authorized personnel, provided the individual reasonably relied on such improper or inadequate advice in good faith, and when the requirement subsequently was made known to the individual, the previously omitted information was promptly and fully provided.

(l) *Refusal to answer* [See § 155.6(e)(16)]. The basis is failing or refusing to answer or to authorize others to answer questions or provide information required by a Congressional committee, court or agency in the course of an official inquiry whenever such answers or information concern relevant and material matters pertinent to an evaluation of the individual's trustworthiness, reliability and judgment.

(1) *The disqualifying factors,* when behavior falls within one or more of the following categories, are:

(i) Failure or refusal to provide full, frank and truthful answers or to authorize others to do so, in connection with any application for security clearance or access, to include required nondisclosure and security termination agreements.

(ii) Failure or refusal to provide appropriate investigative forms, including release forms, for use by investigators in obtaining information from medical institutions, agencies or personal physicians, therapists, psychologists, psychiatrists, counselors, rehabilitation treatment agencies or personnel; from police or criminal agencies, probation agencies or officers, financial institutions, employers, Federal or State agencies, professional associations or any other organizations as required as part of an investigation for security clearance, access, appointment or assignment to sensitive duties.

(iii) Failure or refusal to authorize others to provide relevant and material information necessary to reach a security clearance determination.

(iv) Failure or refusal to answer questions or provide information required by a Congressional committee, court or agency when such answers or information concern relevant and material matters pertinent to evaluating the individual's trustworthiness, reliability and judgment.

(2) *The mitigating factors,* which are circumstances which may mitigate disqualifying information, are:

(i) The individual was unable to provide the information despite good faith and reasonable efforts to do so.

(ii) The individual was unaware of the necessity to provide the information requested or of the possible consequences of such refusal or failure to provide the information, and, upon being made aware of this requirement, fully, frankly and truthfully provided the requested information.

(iii) The individual sought and relied in good faith on information and advice from legal counsel or other officials that the individual was not required to provide the information requested, and, upon being made aware of the requirement, fully, frankly and truthfully provided the requested information.

(m) *Sexual misconduct* [See § 155.6(e)(17)]. The basis is any acts of sexual misconduct or perversion indicative of moral turpitude, poor judgment or lack of regard for the laws of society.

(1) *The disqualifying factors,* when behavior falls within one or more of the following categories, are:

(i) The conduct involves:

(A) Acts performed or committed in open or public places.

(B) Acts performed with a minor, or with animals.

(C) Acts involving inducement, coercion, force, violence or intimidation of another person.

(D) Prostitution, pandering or the commission of sexual acts for money or other remuneration or reward.

(E) Sexual harassment.

(F) Self mutilation, self punishment or degradation.

(G) Conduct that involves spouse swapping, or group sex orgies.

(H) Adultery that is recent, frequent and likely to continue and has an adverse effect on good order or discipline within the work place (e.g., officer/enlisted, supervisor/subordinate, instructor/student).

(I) Conduct determined to be criminal in the locale in which it occurred.

(J) Deviant or perverted sexual behavior which may indicate a mental or personality disorder (e.g., transsexualism, transvestism, exhibitionism, incest, child molestation, voyeurism, bestiality, or sodomy.

(ii) The conduct has been recent.

(iii) The conduct increases the individual's vulnerability to blackmail, coercion or pressure.

(iv) Evidence that the applicant has intention or is likely to repeat the conduct in question.

(2) *The mitigating factors,* which are circumstances which may mitigate qualifying information, are:

(i) Sexual misconduct occurred on an isolated basis during or preceding adolescence with no evidence of subsequent conduct of a similar nature, and clear indication that the individual has no intention of participating in such conduct in the future.

(ii) Sexual misconduct was isolated, occurred more than 3 years ago, and there is clear indication that the individual has no intention of participating in such conduct in the future.

(iii) The individual was a minor or was the victim of force, or violence by another.

(iv) The individual has successfully completed professional therapy, has been rehabilitated and has been diagnosed by competent medical authority that misconduct is not likely to recur.

(v) Demonstration that the individual's sexual misconduct can no longer form the basis for vulnerability to blackmail, coercion or pressure.

§ 155.9 Standard for reimbursement petition determinations.

(a) Determinations whether and, if so, how much the Petitioner (Applicant) is to be reimbursed depend upon the finding whether or not the Department of Defense was justified in taking the initial action to suspend, deny or revoke the security clearance and whether it is fair to reimburse the Applicant. The criteria to be used to make the finding are as follows:

(1) *Administrative suspension.* This type of suspension action is justified if the Applicant:

(i) Fails or refuses to give, or to authorize others to give, full, frank and truthful answers to relevant questions needed by DISCR to reach a security clearance determination (in the Applicant's case) at any stage of the investigative or adjudicative process [§ 155.6(b)],

(ii) Fails to submit a response answer to the Statement of Reasons [§ 155.7(f)], or

(iii) Fails to appear (for hearing) or to proceed in a timely and orderly fashion (at hearing) [§ 155.7(j)],

(iv) Requests to discontinue processing of his security clearance application by signing a certificate of understanding that such a request will result in discontinued processing, administrative suspension of any existing clearance and denial of any pending clearing request.

(v) Administrative Suspensions resulting from one of the four situations in § 155.9(a)(1) (i) through (iv) are justified if the Applicant had notice of the applicable requirement to cooperate fully and was given sufficient time or opportunity to cooperate.

(2) *Emergency (interim) Suspension [See § 155.6(g)].* This type of action is justified if:

(i) There is sufficient information to provide a reasonable basis for concluding that the Applicant's continued access to classified information could endanger the national interest, but only if:

(A) The suspension was approved DUSD(P) or designee after coordination with GC, DoD or designee, and

(B) The recommendation for suspension included sufficient, reliable evidence (including documentary evidence, if it was reasonably available) to provide a reasonable basis for the conclusion that continued access pending full adjudication by DISCR could endanger the national security, and

(C) The individual was promptly notified of the suspension.

(ii) Where the threat to the national interest is clearly direct and imminent, if:

(A) The suspension action was taken by the Director, DIS, or by the Director, DISCR, and

(B) There was sufficient, reliable evidence (including documentary evidence if it was reasonably available) to provide a reasonable basis for the conclusion that continued access would pose a clearly direct and imminent threat to the national security, and

(C) There is a record that there was consultation with the Office of the DUSD(P) and the Office of GC, DoD, and

(D) The individual was promptly notified of the suspension.

(3) *Denial (of clearance) is justified if:*

(i) It is based upon the Applicant's failure or refusal to cooperate in one of the four types of situations listed in § 155.9(a)(1) (i) through (iv), *if* the Applicant was made aware of the applicable requirement to cooperate fully and was given sufficient time or opportunity to do so, or

(ii) It is made by the Examiner after providing the full due process procedures of § 155.7 and the Applicant subsequently was granted a clearance on the basis of evidence not presented before the Examiner.

(4) Revocation (of clearance) is justified only if it is made by the Examiner after providing the full due process procedures of § 155.7 and the Applicant subsequently was granted a clearance on the basis of evidence not presented before the Examiner.

(5) Denial or revocation of clearance made by an Examiner is not justified if it subsequently was reversed by a court of competent jurisdiction on the basis of the same evidence presented before the Examiner.

May 1, 1987.

Linda M. Lawson,

Alternate OSD Federal Register Liaison Officer, Department of Defense.

[FR Doc. 87-10320 Filed 5-5-87; 8:45 am]

BILLING CODE 3810-01-M

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[A-4-FRL-3195-8]

Approval and Promulgation of Implementation Plans; Kentucky: 401 KAR 61:140, Existing By-product Coke Manufacturing Plants

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: EPA is today proposing to approve a revision to 401 KAR 61:140, Existing by-product coke manufacturing plants, submitted by Kentucky on September 19, 1986. This revision would change the test method for measuring total dissolved solids (TDS) in quench water used in by-product coke manufacturing operations from ASTM Method 209B to Method 209C. EPA previously requested this change in test methods. At the present time, there is only one source in Kentucky which is subject to this proposed amendment, and that source is currently in compliance with its provisions.

DATE: Comments must be received on or before June 5, 1987.

ADDRESSES: Copies of the State submittal and other relevant documents are available for public inspection at the following locations:

U.S. Environmental Protection Agency, Region IV, Air Programs, Branch, 345 Courtland Street, NE., Atlanta Georgia 30365

Kentucky Natural Resources and Environmental Protection Cabinet, Department for Environmental Protection, 18 Reilly Road, Building #2, Fort Boone Plaza, Frankfort, Kentucky, 40601

Comments should be addressed to Ms. Pamela E. Adams, at the EPA address above.

FOR FURTHER INFORMATION CONTACT: Ms. Pamela E. Adams, U.S. Environmental Protection Agency, Region IV, Air Programs Branch, at the above listed address or at (404) 347-2864 or FRS 257-2864.

SUPPLEMENTARY INFORMATION: On December 1, 1982, Kentucky promulgated revisions to its regulation for the control of emissions from existing by-product coke manufacturing plants, 401 KAR 61:140, and submitted them to EPA for approval. EPA responded by saying that the regulation would be entirely approvable if the Cabinet changed the test method for measuring total dissolved solids (TDS) in the makeup water from Method 209B to Method 209C of the *Standard Methods for The Evaluation of Water and Wastewater*, ASTM 15th Edition, 1980. On August 28, 1986, a public hearing was held in Frankfort, Kentucky to receive comments on 401 KAR 61:140, Existing by-product coke manufacturing plants, with the newly incorporated test method. The amended regulation was submitted to EPA on September 19, 1986.

Method 209B and Method 209C are both test methods for determining total filtrable residue. Method 209C differs from Method 209B only in that the temperature of the drying oven is maintained at 103°C–105°C rather than 180°C. The only source affected by this amendment, Armco Inc.—Coke plant, I.D. No. 103–0340–0027, is already in compliance with the provisions of this amendment (letter dated April 12, 1985, from D.E. Davisson, Environmental Engineer, Armco, Inc.). The requirement of this new test method (Method 209C), will cause no economic disadvantages to Kentucky.

Proposed Action

EPA is today proposing to approve the revision to 401 KAR 61:140, Existing by-product coke manufacturing plants, which changes the test method for measuring TDS in quench water used in by-product coke manufacturing operations from Method 209B to Method 209C. The only difference in these two test methods is in the temperature of the drying oven.

Under 5 U.S.C. 605(b), I certify that this SIP revision will not have a significant economic impact on a substantial number of small entities. (See 46 FR 8709.)

The Office of Management and Budget has exempted this rule from the requirements of section 3 of Executive Order 12291.

List of Subjects in 40 CFR Part 52

Air pollution control, Intergovernmental relations, Particulate matter.

Authority: 42 U.S.C. 7401–7642.

Dated: March 18, 1987.

John T. Marlar,

Acting Regional Administrator.

[FR Doc. 87–10264 Filed 5–5–87; 8:45 am]

BILLING CODE 6560-50-M

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40 CFR Part 52

[A-5-FRL-3195-7]

Approval and Promulgation of Implementation Plans; Ohio

AGENCY: U.S. Environmental Protection Agency (USEPA).

ACTION: Proposed ruling.

SUMMARY: USEPA is proposing to approve Ohio's Good Engineering Stack Height Regulations, Ohio Administrative Code Chapter 3745–16–01 and 02, as a revision to the Ohio State Implementation Plan (SIP). The rules USEPA are proposing to approve restrict the use of stack height and dispersion techniques in setting emission limits which are based on the impact of source emissions on ambient air quality. The rules are intended to satisfy the requirements of section 123 of the Clean Air Act.

DATE: Comments on this revision and on the proposed USEPA action must be received by June 5, 1987.

ADDRESSES: Copies of the SIP revision are available at the following addresses for review: (It is recommended that you telephone Debra Marcantonio, at (312) 886–6088, before visiting the Region V office.)

U.S. Environmental Protection Agency, Region V, Air and Radiation Branch, 230 South Dearborn Street, Chicago, Illinois 60604

Ohio Environmental Protection Agency, Office of Air Pollution Control, 361 East Broad Street, Columbus, Ohio 43216

Comments on this proposed rule should be addressed to: (Please submit an original and three copies, if possible.)

Gary Gulezian, Chief, Regulatory Analysis Section, Air and Radiation Branch (SAR–26), U.S. Environmental Protection Agency, Region V, 230 South Dearborn Street, Chicago, Illinois 60604

FOR FURTHER INFORMATION CONTACT: Debra Marcantonio, (312) 886–6088.

SUPPLEMENTARY INFORMATION: Section 123 of the Clean Air Act, as amended, requires USEPA to promulgate regulations to ensure that the degree of emission limitation required for the control of any air pollutant under an applicable State Implementation Plan (SIP) is not affected by that portion of any stack height which exceeds good engineering practice (GEP) or by any other dispersion technique. A regulation implmenting section 123 was promulgated on February 8, 1982 (47 FR 5864). Revisions to the regulation were published on July 8, 1985 (50 FR 27892).

State Implementation Plan Requirements

Pursuant to section 406(d)(2) of the Clean Air Act Amendments of 1977, USEPA is requiring that all States (1) review and revise, as necessary, their SIP to include provisions that limit stack

height credits and dispersion techniques in accordance with USEPA's July 8, 1985, revised regulations and (2) review all existing emission limitations to determine whether any of these limitations have been affected by impermissible stack height credits above GEP or by any other dispersion techniques. For any limitations that have been so affected, States are required to prepare revised limitations consistent with their revised SIP. All SIP revisions and revised emission limitations were required to be submitted to USEPA within 9 months of promulgation of the July 8, 1985, revised stack height regulations.

Today's notice addresses the State's Stack Height Regulations developed to include provisions in the Ohio SIP that limit stack height credits and dispersion techniques in accordance with USEPA's July 8, 1985, regulations. Any revised limitations for sources in Ohio will be addressed at a later time in a separate **Federal Register** notice.

On March 3, 1986, Ohio EPA submitted GEP Stack Height Regulations for inclusion in the State Implementation Plan. These regulations were adopted by the State on February 12, 1986, and became effective on March 5, 1986. State regulations are compared to the Federal regulations (47 FR 5864 and 50 FR 27892) below. Based on this comparison, the State regulations are approvable.

1. DEFINITIONS

Definition	Applicable federal regulation	State regulation	Comments
(Not Applicable)	(Not Applicable)	3745-16-01(A)	Includes those definitions in 3745-15-01. [On October 10, 1982 (47 FR 43375), USEPA approved 3745-15-01].
Stack In Existence	Part 51.1(gg)	3745-16-01(B)	Identical to Federal.
Dispersion Technique.	Part 51.1(hh)	3745-16-01(C)	Nearly identical (State uses the word "source" in place of "facility" excpet in (C)(2)(e).)
Emission Limitation and Emission Standard.	40 CFR Part 51.1(Z)	3745-16-01(D)	State regulation fails to state that emission limitations apply on a continuous basis. State has agreed to clarify this in a letter during the public comment period.
Excessive Concentration.	Part 51.1(kk)	3745-16-01(E)	State regulation is identical, except that it defines a "nuisance" through reference to 3745-15-07 (approved by USEPA on August 13, 1984, 49 FR 32181).
Good Engineering Practice.	Part 51.1(ii)	3745-16-01(F)	State regulation is similar, except that only the State Director can require a demonstration to verify GEP height and it references 3745-31 and 3745-35, instead of 40 CFR Parts 51 and 52. USEPA approved June 10, 1982 (47 FR 25144), and July 8, 1983 (48 FR 31400). USEPA conditionally approved in final 3745-31 on October 31, 1980) 45 FR 72119), and proposed to remove the conditions on July 5, 1984 (49 FR 27584).
Nearby	Part 51.1(jj)	3745-16-01(G)	Identical to Federal.
Stack	Part 51.1(ff)	3745-16-01(H)	Concept identical to Federal.
Stack Height		3745-16-01(I)	State definition is acceptable.

The State definitions are generally identical to the Federal definitions with three exceptions. First, Ohio had referenced portions of their own State regulations (which have been approved by USEPA). This is acceptable since those other State regulations have been federally approved.

Second, Ohio has not included a requirement for continuous limitations on emissions in its definitions of Emission Limitation and Emission Standard. Ohio has agreed to clarify its definitions in a letter during the public comment period. At the time USEPA takes final rulemaking on this action the clarification letter will be incorporated by reference into the SIP.

Third, Ohio's definition of "Good Engineering Practice" provides only the Director of the Ohio Environmental Protection Agency authority to require a field study or fluid modeling study to verify the GEP stack height. (USEPA's definition gives the authority to USEPA, the State, or the local control agency.) USEPA believes this is acceptable because under the current Federal regulations, USEPA has authority to require a field study or fluid modeling study to verify the GEP stack height.

II. STACK HEIGHT REQUIREMENTS

Requirement	Federal regulation	State regulation	Comments
Applicability Exemptions	40 CFR Part 51.12(k).	3745-16-02(A)	Identical.
Stack Height Credit	Part 51.12(j)	3745-16-02(B)	Concept identical to Federal.
Public Hearing (on Greater than Formula Credit).	Part 51.12(j)	3745-16-02(C)	Concept identical to Federal.
Actual Stack Height	Part 51.12(j)	3745-16-02(D)	Concept identical to Federal.

The State requirements are either the same or similar to the Federal requirements and, thus, are acceptable.

Finally, it should be noted that USEPA has issued guidance on implementing the Federal Stack Height Regulations (e.g., "Questions and Answers on Implementing the Revised Stack Height Regulation," October 10, 1985; "Determining Stack Heights in Existence Before December 31, 1970," October 28, 1985; "Implementation of Stack Height Regulations—Presumptive NSPS Emission Limit for Fluid Modeling Stacks Above Formula GEP Height," October 28, 1985; and "Implementation of Stack Height Regulations—Exception from Restrictions on Credit for Merged Stacks," October 28, 1985). In its submittal, Ohio EPA stated that it would "implement our rules consistent with this (Federal) guidance. . .". USEPA accepts this comment to follow the current (and future) Federal implementation guidance.

USEPA today is proposing to approve Ohio's Good Engineering Stack Height Regulations, OAC Chapter 3745-16-01 and 02, as a revision to the Ohio SIP.

Under 5 U.S.C. 605(b), the Administrator has certified that SIP approvals do not have a significant economic impact on a substantial number of small entities. (See 46 FR 8709).

The Office of Management and Budget has exempted this rule from the requirements of section 3 of Executive Order 12291.

Authority: 42 U.S.C. 7401-7642.

Dated: August 28, 1986.

Peter L. Wise,

Acting Regional Administrator.

[FR Doc. 87-10265 Filed 5-5-87; 8:45 am]

BILLING CODE 6560-50-M

40 CFR Part 180

[PP 7E3494/P416; FRL-3195-3]

Pesticide Tolerance for Aluminum Tris(O-Ethylphosphonate)

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: This document proposes that a tolerance be established for residues of the fungicide aluminum tris(*O*-ethylphosphonate) in or on the raw agricultural commodity asparagus. The proposed regulation to establish a maximum permissible level for residues of the fungicide in or on the commodity was requested in a petition submitted by the Interregional Research Project No. 4 (IR-4).

DATE: Comments, identified by the document control number [PP 7E3494/P416], should be received on or before June 5, 1987.

ADDRESS: By mail, submit written comments to: Information Services Section, Program Management and Support Division (TS–757C), Office of Pesticide Programs, Environmental Protection Agency, 401 M St., SW., Washington, DC 20460.

In person, bring comments to: Rm. 236, CM# 2, 1921 Jefferson Davis Highway, Arlington, VA 22202.

Information submitted as a comment concerning this notice may be claimed confidential by marking any part or all of that information as "Confidential Business Information" (CBI). Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR Part 2. A copy of the comment that does not contain CBI must be submitted for inclusion in the public record. Information not marked confidential may be disclosed publicly by EPA without prior notice. All written comments will be available for public inspection in Room 236 at the address given above, from 8 a.m. to 4 p.m., Monday through Friday, excluding holidays.

FOR FURTHER INFORMATION CONTACT: By mail: Donald R. Stubbs, Emergency Response and Minor Use Section (TS–767C), Registration Division, Environmental Protection Agency, 401 M Street SW., Washington, DC 20460.

Office location and telephone number: Rm. 716H, CM# 2, 1921 Jefferson Davis Highway, Arlington, VA 22202, (703–557–1806).

SUPPLEMENTARY INFORMATION: The Interregional Research Project No. 4 (IR–4), New Jersey Agricultural Experiment Station, P.O. Box 231, Rutgers University, New Brunswick, NJ 08903, has submitted pesticide petition 7E3494 to EPA on behalf of Dr. Robert H. Kupelian, National Director, IR–4 Project and the Agricultural Experiment Station of California.

This petitioner requested that the Administrator, pursuant to section 408(e) of the Federal Food, Drug, and Cosmetic Act, propose the establishment of a tolerance for residues of the fungicide aluminum tris(*O*-ethylphosphonate) in or on the raw agricultural commodity asparagus at 0.1 part per million (ppm). The petitioner proposed that use of the pesticide on asparagus be limited to California based on the geographical representation of the data submitted. Additional residue data will be required to expand the area of usage. Persons seeking geographically broader registration should contact the Agency's Registration Division at the address provided above.

The data submitted in the petition and other relevant material have been evaluated. The pesticide is considered useful for the purpose for which the tolerance is sought. The toxicological data considered in support of the proposed tolerance include:

1. A 2-year dog feeding study with a no-observed-effect level (NOEL) of 250 milligrams (mg)/Kilogram (kg) body weight/day.

2. An oncogenicity study in mice with no oncogenic effects observed under the conditions of the study at dosage levels of 0, 357, 1,430, 2,857/4,286 mg/kg body weight/day.

3. A reproduction study in rats with a NOEL of 300 mg/kg body weight/day.

4. A rabbit teratology study with no embryotoxic, fetotoxic, or teratogenic effects at the highest dose tested (500 mg/kg/day), and a teratology study in rats with a NOEL of 1,000 mg/kg/day.

5. Ames mutagenicity assays, *E. Coli* phage induction tests, micronucleus tests in mice, and DNA repair tests using *E. Coli* and *Saccharomyces cerevisiae* yeast assay that were negative for mutagenic effects.

6. A 2-year feeding/oncogenicity study in rats with statistically significant elevated incidence of urinary bladder tumors (adenomas and carcinomas combined) in male rats at the highest dose level tested (2,000/1,500 mg/kg/day). In this study Charles River CD–1 rats were dosed with aluminum tris(*O*-ethylphosphonate) at levels of 0, 100, 400, and 2,000/1,500 mg/kg body weight/day. The high-dose level was reduced to 1,500 mg/kg body weight/day after 2 weeks. The highest dose level appeared to approximate a maximum tolerated dose based on the finding of urinary tract hyperplasia in male rats at the 2,000/1,500 mg/kg body weight/day feeding level. Lower body weight in male rats as compared to controls was also observed at the 2,000 mg/kg body weight/day level during the first 2 weeks of the study. Tumors were mainly observed in surviving males at the time of terminal sacrifice. Additional information regarding the Agency's evaluation of the 2-year rat feeding/oncogenicity study is provided in detail in a final rule document on aluminum tris(*O*-ethylphosphonate) published in the **Federal Register** of May 21, 1986 (51 FR 13585).

The Agency has concluded that the available data constitute limited evidence for the oncogenicity of aluminum tris(*O*-ethylphosphonate) in male Charles River CD–1 male rats and has classified the pesticide as a Category C oncogen (possible human carcinogen with limited evidence of carcinogenicity in animals). The Agency has further decided not to develop a quantitative estimation of the oncogenic potential of aluminum tris(*O*-ethylphosphonate) for the following reasons:

a. The oncogenic response observed in the rat chronic feeding/oncogenicity study was confined solely to the high-dose males at one site (urinary bladder) in Charles River CD–1 rats. The tumors were mainly seen in surviving animals at the time of terminal sacrifice. Moreover, the unusually high dose at which oncogenic effects were observed (2,000/1,500 mg/kg body weight/day) approached a level in the diet at which the nutritional status of the experimental animal may begin to be compromised.

b. No oncogenic effects were observed in an oncogenicity study performed in mice at dose levels up to 4,286 mg/kg body weight per day.

c. The urinary metabolite of aluminum tris(*O*-ethylphosphonate) was not

oncogenic when administered in the diet to Charles River CD–1 rats at dose levels up to 32,000 ppm (1,600 mg/kg body weight/day).

d. No adverse effects on the urinary bladder or the adrenal gland were produced by aluminum tris(*O*-ethylphosphonate) in a 2-year chronic toxicity study performed in dogs at dose levels up to 40,000 ppm (1,000 mg/kg body weight/day).

e. Mutagenic assays for aluminum tris(*O*-ethylphosphonate) were negative for mutagenic effects.

The acceptable daily intake (ADI) is based on the 2-year dog feeding with a NOEL of 250 mg/kg/day. Using a 100-fold safety factor and rounding to the largest whole number the ADI is calculated to be 3.0 mg/kg of body weight (bw)/day. The maximum permitted intake (MPI) for a 60-kg human is calculated to be 180 mg/day. The theoretical maximum residue contribution (TMRC) from existing tolerances for a 1.5-kg daily diet is calculated to be 0.000103 mg/kg/day for a 60-kg human; the current action will increase the TMRC by 0.0000035 mg/kg/day. Published tolerances utilize 0.0034 percent of the ADI; the current action will utilize an additional 0.0001 percent.

The nature of the residues is adequately understood and an adequate analytical method, gas-liquid chromatography using a flame photometric detector, is available for enforcement purposes. The analytical method is being prepared for publication in the Pesticide Analytical Manual, Volume II (PAM II). In the interim the analytical method is available to anyone interested in pesticide enforcement from: By mail: William Grosse, Chief, Information Services Section (TS–767C), Program Management and Support Division, Office of Pesticide Programs, Environmental Protection Agency, 401 M Street SW., Washington, DC 20460.

Office location and telephone number: Rm. 236, CM # 2, 1921 Jefferson Davis Highway, Arlington, VA 22202, (703–567–3262).

There is no reasonable expectation of secondary residues occurring in milk and meat of livestock or poultry. There are curently no actions pending against the continued registration of this chemical.

Based on the data and information considered, the Agency concludes that the tolerance will protect the public health. Therefore, it is proposed that the tolerance be established as set forth below.

Any person who has registered or submitted an application for registration of a pesticide, under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) as amended, which contains any of the ingredients listed herein, may request within 30 days after publication of this document in the **Federal Register** that this rulemaking proposal be referred to an Advisory Committee in accordance with section 408(e) of the Federal Food, Drug, and Cosmetic Act.

Interested persons are invited to submit written comments on the proposed regulation. Comments should bear a notation indicating the document control number, [PP 7E3494/P416]. Written comments filed in response to this petition will be available in the Information Services Section, at the address given above from 8 a.m. to 4 p.m., Monday through Friday, except legal holidays.

The Office of Management and Budget has exempted this rule from the requirements of section 3 of Executive Order 12291.

Pursuant to the requirements of the Regulatory Flexibility Act (Pub. L. 96–354, 94 Stat. 1164, 5 U.S.C. 601 through 612), the Administrator has determined that regulations establishing new tolerances or raising tolerance levels or establishing exemptions from tolerance requirements do not have a significant economic impact on a substantial number of small entities. A certification statement to this effect was published in the **Federal Register** of May 4, 1981 (46 FR 24950).

List of Subjects in 40 CFR Part 180

Administrative practice and procedure, Agricultural commodities, Pesticides and pests, Recording and recordkeeping requirements.

Dated: April 24, 1987.

Edwin F. Tinsworth,

Director, Registration Division, Office of Pesticide Programs.

Therefore, it is proposed that 40 CFR 180 be amended as follows:

PART 180—[AMENDED]

1. The authority citation for Part 180 continues to read as follows:

Authority: 21 U.S.C. 346a.

2. Section 180.415 is amended by designating the current paragraph and list of tolerances as paragraph (a) and by adding new paragraph (b), to read as follows:

§ 180.415 Aluminum tris(O-ethylphosphonate); tolerances for residues.

(a) * * *

(b) Tolerances with regional registration, as defined in § 180.1(n), are established for residues of the fungicide aluminum tris(*O*-ethylphosphonate) in or on the following raw agricultural commodity:

Commodity	Parts per million
Asparagus	0.1

[FR Doc. 87–10133 Filed 5–5–87; 8:45 am]

BILLING CODE 6560–50–M

40 CFR Part 180

[OPP-300163; FRL-3196-3]

Raw Agricultural Commodities; Definitions and Interpretations

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: This document proposes to amend certain sections in 40 CFR Part 180 by recodifying certain established tolerances as "tolerances with regional registration" as defined in 40 CFR 180.1(n). This Agency-initiated action distinguishes tolerances for minor uses, based on residue data from geographically specific areas for which data have been submitted and approved by EPA.

DATE: Comments, identified by the document control number [OPP–300163], should be received on or before June 5, 1987.

ADDRESS: By mail, submit written comments to: Information Services Section, Program Management and Support Division (TS–757C), Office of Pesticide Programs, Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460.

In person, bring comments to: Rm. 236, CM No. 2, 1921 Jefferson Davis Highway, Arlington, VA 22202.

Information submitted as a comment concerning this notice may be claimed confidential by marking any part or all of that information as "Confidential Business Information" (CBI). Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR Part 2. A copy of the comment that does not contain CBI must be submitted for inclusion in the public record. Information not marked confidential may be disclosed publicly by EPA without prior notice. All written comments will be available for public inspection in Room 236 at the address given above, from 8 a.m. to 4 p.m., Monday through Friday, excluding holidays.

FOR FURTHER INFORMATION CONTACT: By mail: Donald R. Stubbs, Emergency

Response and Minor Use Section (TS–767C), Registration Division, Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460.

Office location and telephone number: Rm. 716H, CM No. 2, 1921 Jefferson Davis Highway, Arlington, VA 22202. (703–557–1806).

SUPPLEMENTARY INFORMATION: This document proposes to recodify certain established tolerances as "tolerances with regional registration" as defined in § 180.1(n). Prior to this proposed recodification, no distinction was made of tolerances established based on residue data from geographically specific areas. Later, some "tolerances with regional registration" were defined and listed in separate subsections, alerting users to the fact that these tolerances were established in support of regional registration.

This proposed rule identifies "tolerances with regional registration" in 40 CFR 180.101 through 180.999 by deleting unidentified "tolerances with regional registration" and recodifying them in paragraphs clearly identified for that specific purpose.

In the **Federal Register** of March 10, 1982 (47 FR 10211), EPA announced that it would consider for approval tolerances for minor uses, based on residue data from geographically specific areas. The Agency stated at that time that the development of residue data from all geographical regions where the crop is grown could delay efforts to obtain tolerances for minor uses. Regional registration restricts the use of the pesticide product to the geographical area for which sufficient residue data have been submitted and approved. In order to expand the usage, the registrant must submit residue data that are representative of the expanded use area. Additional information regarding data required to support tolerances for regional registration is provided in a policy statement published in the **Federal Register** of April 2, 1986 (51 FR 11341).

Since regional registrations are geographically restricted, as determined by the residue data submitted in support of the pesticide tolerance, the Agency has decided that it will be useful to distinguish a tolerance for regional registration in a separate subsection of the tolerance rule. Any tolerance established for pesticide residues resulting from use pursuant to a regional registration will be listed in a separate subsection under 40 CFR 180.101 through 180.999, as appropriate, and will be therein designated "tolerance with regional registration." The subsection will identify any tolerance established for regional registration and will refer the reader to the definition for "tolerance with regional registration" in 40 CFR 180.1(n).

Any interested person may request within 30 days after publication of this notice in the **Federal Register** that this rulemaking proposal be referred to an Advisory Committee in accordance with section 408(e) of the Federal Food, Drug, and Cosmetic Act.

Interested persons are invited to submit written comments on the proposed regulation. Comments must bear a notation indicating the document control number, [OPP–300163]. All written comments filed in response to this petition will be available in the Information Service Section, at the address given above from 8 a.m. to 4 p.m., Monday through Friday, except legal holidays.

As required by Executive Order 12291, the EPA has determined that this rule is not a "Major" rule and, therefore, does not require a Regulatory Impact anaylysis.

This rulemaking has been reviewed under the Regulatory Flexibility Act of 1980 (Pub. L. 96–354; 94 Stat. 1165.5; U.S.C. 601 *et seq.*) and it has been determined that it will not have an economic impact on a substantial number of small entities. Accordingly, I hereby certify that the proposed regulation does not require a regulatory flexibility analysis.

List of Subjects in 40 CFR Part 180

Administrative practice and procedure, Agricultural commodities, Pesticides and pests, Reporting and recordkeeping requirements.

Dated: April 22, 1987.

Edwin F. Tinsworth,

Director, Registration Division, Office of Pesticide Programs.

PART 180—[AMENDED]

Therefore, it is proposed that 40 CFR Part 180 be amended as follows:

1. The authority citation for Part 180 continues to read as follows:

Authority: 21 U.S.C. 346a.

2. Section 180.108 is amended by removing the entry for "macadamia nuts ..... 0.05" from the list of commodities, designating the existing introductory paragraph and list of commodities as paragraph (a), and adding paragraph (b) to read as follows:

§ 180.108 Acephate; tolerances for residues.

(a) * * *

(b) Tolerances with regional registration, as defined in § 180.1(n), are established for the combined residues of acephate and its cholinesterase-inhibiting metabolite in or on the following raw agricultural commodities:

Commodities	Parts per million
Macadamia nuts	0.05

3. Section 180.172 is amended by removing the entry for "Spinach ..... 12.0" from the list of commodities, designating the existing introductory paragraph and list of commodities as paragraph (a), and adding paragraph (b) to read as follows:

§ 180.172 Dodine; tolerances for residues.

(a) * * *

(b) Tolerances with regional registration, as defined in § 180.1(n), are established for residues of dodine in or on the following raw agricultural commodities:

Commodities	Parts per million
Spinach	12.0

4. Section 180.175 is amended by removing the entry for "Cranberries ..... 15.0" from the list of commodities, designating the existing introductory paragraph and list of commodities as paragraph (a), and adding paragraph (b) to read as follows:

§ 180.175 Maleic hydrazide; tolerances for residues.

(a) * * *

(b) Tolerances with regional registration, as defined in § 180.1(n), are established for residues of maleic hydrazide in or on the following raw agricultural commodities:

Commodities	Parts per million
Cranberries	15.0

5. Section 180.183 is amended by removing the entry for "Asparagus ..... 0.1" from the list of commodities, designating the existing introductory paragraph and list of commodities as paragraph (a), and adding paragraph (b) to read as follows:

§ 180.183 O,O-Diethyl S-[2-(ethylthio)ethyl] phosphorodithioate; tolerances for residues.

(a) * * *

(b) Tolerances with regional registration, as defined in § 180.1(n), are established for the combined residues of *O,O*-diethyl *S*-[2-(ethylthio)ethyl] phosphorodithioate and its cholinesterase-inhibiting metabolites,

calculated as demeton, in or on the following raw agricultural commodities:

Commodities	Parts per million
Asparagus	0.1

6. Section 180.185 is amended by removing the entries for "Radish, roots ..... 2.0" and "Radish, tops ..... 15.0" from the list of commodities, designating the existing introductory paragraph and list of commodities as paragraph (a), and adding paragraph (b) to read as follows:

§ 180.185 Dimethyl tetrachloroterephthalate; tolerances for residues.

(a) * * *

(b) Tolerances with regional registration, as defined in § 180.1(n), are established for the combined residues of dimethyl tetrachloroterephthalate and its metabolites, calculated as dimethyl tetrachloroterephthalate, in or on the following raw agricultural commodities:

Commodities	Parts per million
Radish, roots	2.0
Radish, tops	15.0

7. Section 180.199 is amended by removing the entries for "Asparagus ..... 300", "Lettuce ..... 300", and "Onions (dry bulb) ..... 300" from the list of commodities, designating the existing introductory paragraph and list of commodities as paragraph (a), and adding paragraph (b) to read as follows:

§ 180.199 Inorganic bromides resulting from soil treatment with combinations of chloropicrin, methyl bromide, and propargyl bromide; tolerances for residues.

(a) * * *

(b) Tolerances with regional registration, as defined in § 180.1(n), are established for residues of inorganic bromides (calculated as Br) in or on the following raw agricultural commodities grown in soil fumigated with combinations of chloropicrin, methyl bromide, and propargyl bromide:

Commodities	Parts per million
Asparagus	300
Lettuce	300
Onions (dry bulb)	300

8. Section 180.204 is amended by removing the entry for "Cherries ..... 2" from the list of commodities, designating the existing introductory paragraph and list of commodities as paragraph (a), and adding paragraph (b) to read as follows:

§ 180.204 Dimethoate including its oxygen analog; tolerances for residues.

(a) * * *

(b) Tolerances with regional registration, as defined in § 180.1(n), are established for total residues of dimethoate including its oxygen analog in or on the following raw agricultural commodities:

Commodities	Parts per million
Cherries	2

9. Section 180.253 is amended by removing the entries for "Onions, green ..... 3" and "Pears ..... 4" from the list of commodities, designating the existing introductory paragraph and list of commodities as paragraph (a), and adding paragraph (b) to read as follows:

§ 180.253 Methomyl; tolerances for residues.

(a) * * *

(b) Tolerances with regional registration, as defined in § 180.1(n), are established for residues for methomyl in or on the following raw agricultural commodities:

Commodities	Parts per million
Onions, green	3
Pears	4

10. Section 180.258 is amended by removing the entry for "Cassava, roots ..... 0.1" from the list of commodities, designating the existing introductory paragraph and list of commodities as paragraph (a), and adding paragraph (b) to read as follows:

§ 180.258 Ametryn; tolerances for residues.

(a) * * *

(b) Tolerances with regional registration, as defined in § 180.1(n), are established for the residues of ametryn in or on the following raw agricultural commodities:

Commodities	Parts per million
Cassava, root	0.1

11. Section 180.259 is amended by removing the entry for "Corn, fresh (including sweet K + CWHR) ..... 0.1", designating the existing introductory paragraph and list of commodities as paragraph (a), and adding paragraph (b) to read as follows:

§ 180.259 Propargite; tolerances for residues.

(a) * * *

(b) Tolerances with regional registration, as defined in § 180.1(n), are established for residues of propargite in or on the following raw agricultural commodities:

Commodities	Parts per million
Corn, fresh (including sweet K + CWHR)	0.1

12. Section 180.262 is amended by removing the entry for "Okra..... 0.02" from the list of commodities, designating the existing introductory paragraph and list of commodities as paragraph (a), and adding paragraph (b) to read as follows:

§ 180.262 Ethoprop; tolerances for residues.

(a) * * *

(b) Tolerances with regional registration, as defined in § 180.1(n), are established for residues of ethoprop in or on the following raw agricultural commodities:

Commodities	Parts per million
Okra	0.02

13. Section 180.275 is amended by removing the entry for "Mint hay..... 2" from the list of commodities, designating the existing introductory paragraph and list of commodities as paragraph (a), and adding paragraph (b) to read as follows:

§ 180.275 Chlorothalnoil; tolerances for residues.

(a) * * *

(b) Tolerances with regional registration as defined in § 180.1(n), are established for the combined residues of chlorothalnoil and its metabolite in or on the following raw agricultural commodities:

Commodities	Parts per million
Mint hay	2

14. Section 180.294 is amended by removing the entry for "Turnip greens..... 6.0" from the list of commodities, designating the existing introductory paragraph and list of commodities as paragraph (a), and adding paragraph (b) to read as follows:

§ 180.294 Benomyl; tolerances for residues.

(a) * * *

(b) Tolerances with regional registration, as defined in § 180.1(n), are established for residues of benomyl and

its metabolites (calculated as benomyl) in or on the following raw agricultural commodities:

Commodities	Parts per million
Turnip greens	6.0

15. Section 180.315 is amended by removing the entry for "Celery..... 1" from the list of commodities, designating the existing introductory paragraph and list of commodities as paragraph (a), and adding paragraph (b) to read as follows:

§ 180.315 Methamidophos; tolerances for residues.

(a) * * *

(b) Tolerances with regional registration, as defined in § 180.1(n), are established for residues of methamidophos in or on the following raw agricultural commodities:

Commodities	Parts per million
Celery	1

16. Section 180.330 is amended by removing the entry for "Apricots..... 0.5" from the list of commodities, designating the existing introductory paragraph and list of commodities as paragraph (a), and adding paragraph (b) to read as follows:

§ 180.330 S-[2-(Ethylsulfinyl)ethyl] O,O-dimenthyl phosphorothioate; tolerances for residues.

(a) * * *

(b) Tolerances with regional registration, as defined in § 180.1(n), are established for residues of *s*-[2-(ethylsulfinyl)ethyl] *O,O*-dimethyl phosphorothioate and its cholinesterase-inhibiting metabolites in or on the following raw agricultural commodities:

Commodities	Parts per million
Apricots	0.5

17. Section 180.342 is amended by removing the entries for "Asparagus..... 5.0", "Cherries..... 2.0", "Grapes..... 0.5", and "Onions, dry bulb..... 0.5" from the list of commodities, designating the existing introductory paragraph and list of commodities as paragraphs (a), and adding paragraph (b) to read as follows:

§ 180.342 Chlorpyrifos; tolerances for residues.

(a) * * *

(b) Tolerances with regional registration, as defined in § 180.1(n), are established for the combined residues of chlorpyrifos and its metabolite in or on the following raw agricultural commodities:

Commodities	Parts per million
Asparagus	5.0
Cherries	2.0
Grapes	0.5
Onions, dry bulb	0.5

18. Section 180.349 is amended by removing the entry for "Asparagus. . . . 0.02" from paragraph (a), and adding paragraph (c) to read as follows:

§ 180.349 Ethyl 3-methyl-4-(methylthio)phenyl (1-methylethyl) phosphoramidate; tolerances for residues.

(a) * * *

(b) * * *

(c) Tolerances with regional registration, as defined in § 180.1(n), are established for the combined residues of ethyl 3-methyl-4-(methylthio)phenyl (1-methylethyl) phosphoramidate and its cholinesterase-inhibiting metabolites ethyl 3-methyl-4-(methylsulfinyl)phenyl (1-methylethyl) phosphoramidate and ethyl 3-methyl-4-(methylsulfonyl)phenyl (1-methylethyl) phosphoramidate in or on the following raw agricultural commodities:

Commodities	Parts per million
Asparagus	0.02

9. Section 180.350 is amended by removing the entry for "Strawberries. . . . . 0.2" from the list of commodities, designating the existing the introductory paragraph and list of commodities as paragraph (a), and adding paragraph (b) to read as follows:

§ 180.350. Nitrapyrin; tolerances for residues.

(a) * * *

(b) Tolerances with regional registration, as defined in § 180.1(n), are established for the combined residues of nitrapyrin and its metabolite in or on the following raw agricultural commodities:

Commodities	Parts per million
Strawberries	0.2

20. Section 180.377 is amended by removing the entry for "Grass, pasture. . . . . 1.0" from the list of commodities, designating the existing introductory paragraph and list of commodities as paragraph (a), and adding paragraph (b) to read as follows:

§ 180.377 Diflubenzuron; tolerances for residues.

(a) * * *

(b) Tolerances with regional registration, as defined in § 180.1(n), are established for residues of diflubenzuron in or on the following raw agricultural commodities:

Commodities	Parts per million
Grass, pasture	1.0

[FR Doc. 87-10266 Filed 5-5-87; 8:45 am]
BILLING CODE 6560-50-M

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 73

[MM Docket No. 87-114, RM-5496]

Television Broadcasting Services; Tallahassee, FL

AGENCY: Federal Communications Commission.

ACTION: Proposed rule.

SUMMARY: This document requests comments on a petition by Family Group Broadcasting proposing to assign UHF Television Channel 24 to Tallahassee, Florida, as its third commercial television service.

DATES: Comments must be filed on or before June 18, 1987, and reply comments on or before July 6, 1987.

ADDRESS: Federal Communications Commission, Washington, DC 20554. In addition to filing comments with the FCC, interested parties should serve the petitioners, or their counsel or consultant, as follows: Lyle Robert Evans, 1145 Pine Street, Green Bay, Wisconsin 54301 (engineering consultant).

FOR FURTHER INFORMATION CONTACT: Montrose H. Tyree, Mass Media Bureau, (202) 634-6530.

SUPPLEMENTARY INFORMATION: This is a summary of the Commission's Notice of Proposed Rule Making, MM Docket No. 87-114, adopted March 27, 1987, and released April 27, 1987. The full text of this Commission decision is available for inspection and copying during normal business hours in the FCC Dockets Branch (Room 230), 1919 M Street NW., Washington, DC. The complete text of this decision may also be purchased from the Commission's copy contractors, International Transcription Service, (202) 857-3800,

2100 M Street NW., Suite 140, Washington, DC 20037.

Provisions of the Regulatory Flexibility Act of 1980 do not apply to this proceeding.

Members of the public should note that from the time a Notice of Proposed Rule Making is issued until the matter is no longer subject to Commission consideration or court review, all ex parte contacts are prohibited in Commission proceedings, such as this one, which involve channel allotments. See 47 CFR 1.1231 for rules governing permissible ex parte contact.

For information regarding proper filing procedures for comments, See 47 CFR 1.415 and 1.420.

List of Subjects in 47 CFR Part 73

Television broadcasting.

Federal Communications Commission.

Mark N. Lipp,

Chief, Allocations Branch, Policy and Rules Division, Mass Media Bureau.

[FR Doc. 87-10208 Filed 5-5-87; 8:45 am]

BILLING CODE 6712-01-M

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47 CFR Part 73

[MM Docket No. 87-116, RM-5541]

Radio Broadcasting Services; Trussville, AL

AGENCY: Federal Communications Commission.

ACTION: Proposed rule.

SUMMARY: This document requests comments on a petition by Trussville Broadcasting, Inc. seeking the allotment of Channel 290A to Trussville, Alabama as that community's first local broadcast service.

DATES: Comments must be filed on or before June 18, 1987, and reply comments on or before July 6, 1987.

ADDRESS: Federal Communications Commission, Washington, DC 20554 In addition to filing comments with the FCC, interested parties should serve the petitioners, or their counsel or consultant, as follows: Mark E. Fields, Esq., Miller & Fields, P.C., P.O. Box 33003, Washington, DC 20033, (Counsel).

FOR FURTHER INFORMATION CONTACT: Nancy V. Joyner, Mass Media Bureau, (202) 634-6530.

SUPPLEMENTARY INFORMATION: This is a summary of the Commission's Notice of Proposed Rule Making, MM Docket No. 87-116, adopted March 27, 1987, and released April 27, 1987. The full text of this Commission decision is available for inspection and copying during normal business hours in the FCC Dockets Branch (Room 230), 1919 M Street NW., Washington, DC. The complete text of this decision may also be purchased from the Commission's copy contractors, International Transcription Service, (202) 857-3800, 2100 M Street NW., Suite 140, Washington, DC. 20037.

Provisions of the Regulatory Flexibility Act of 1980 do not apply to this proceeding.

Members of the public should note that from the time a Notice of Proposed Rule Making is issued until the matter is no longer subject to Commission consideration or court review, all *ex parte* contracts are prohibited in Commission proceedings, such as this one, which involve channel allotments. See 47 CFR 1.1231 for rules governing permissible *ex parte* contact.

For information regarding proper filing procedures for comments, See 47 CFR 1.415 and 1.420.

List of Subjects in 47 CFR Part 73

Radio broadcasting.

Federal Communications Commission.

Mark N. Lipp,

Chief, Allocations Branch, Policy and Rules Division, Mass Media Bureau.

[FR Doc. 87-10210 Filed 5-5-87; 8:45 am]

BILLING CODE 6712-01-M

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47 CFR Part 73

[MM Docket No. 87-117, RM-5522]

Radio Broadcasting Services; Cambria, CA

AGENCY: Federal Communications Commission.

ACTION: Proposed rule.

SUMMARY: This document requests comments on a petition by E.G. Wallenbrock, licensee of Station KOTR (FM), (Channel 232A), Cambria, California, requesting the substitution of Channel 235B1 for Channel 232A and modification of the license accordingly.

DATES: Comments must be filed on or before June 18, 1987, and reply comments on or before July 6, 1987.

ADDRESSES: Federal Communications Commission, Washington, DC 20554 in addition to filing comments with the FCC, interested parties should serve the petitioners, or their counsel or consultant, as follows: E.G. Wallenbrock, 840 Sheffield St., Cambria, California 93428.

FOR FURTHER INFORMATION CONTACT: Nancy V. Joyner, Mass Media Bureau, (202) 634-6530.

SUPPLEMENTARY INFORMATION: This is a summary of the Commission's Notice of Proposed Rule Making, MM Docket No. 87-117, adopted March 27, 1987, and released April 2, 1987. The full text of this Commission decision is available for inspection and copying during normal business hours in the FCC Dockets Branch (Room 230), 1919 M Street NW., Washington, DC. The complete text of this decision may also be purchased from the Commission's copy contractors, International Transcription Service, (202) 857-3800, 2100 M Street NW., Suite 140, Washington, DC 20037.

Provisions of the Regulatory Flexibility Act of 1980 do not apply to this proceeding.

Members of the public should note that from the time a Notice of Proposed Rule Making is issued until the matter is no longer subject to Commission consideration or court review, all *ex parte* contacts are prohibited in Commission proceedings, such as this one, which involve channel allotments. See 47 CFR 1.1231 for rules governing permissible *ex parte* contact.

For information regarding proper filing procedures for comments, See 47 CFR 1.415 and 1.420.

List of Subjects in 47 CFR Part 73

Radio broadcasting.

Federal Communications Commission.

Mark N. Lipp,

Chief, Allocations Branch, Policy and Rules Division, Mass Media Bureau.

[FR Doc. 87-10211 Filed 5-5-87; 8:45 am]

BILLING CODE 6712-01-M

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47 CFR Part 73

[MM Docket No. 87-115, RM-5538]

Radio Broadcasting Services; Seaside, CA

AGENCY: Federal Communication Commission.

ACTION: Proposed rule.

SUMMARY: This document requests comments on a petition by Dr. H. H. Lusk requesting the allotment of Channel 278A to Seaside, California, as that community's second local FM service.

DATES: Comments must be filed on or before June 18, 1987, and reply comments on or before July 6, 1987.

ADDRESS: Federal Communications Commission, Washington, DC 20554. In addition to filing comments with the FCC, interested parties should serve the petitioners, or their counsel or consultant, as follows: David Honig, Esq., 6032 Ocean Pines, Berlin, MD 21811 (Counsel).

FOR FURTHER INFORMATION CONTACT: Nancy V. Joyner, Mass Media Bureau, (202), 634–6530.

SUPPLEMENTARY INFORMATION: This is a summary of the Commission's Notice of Proposed Rule Making, MM Docket No. 87–115, adopted March 27, 1987, and released April 27, 1987. The full text of this Commission decision is available for inspection and copying during normal business hours in the FCC Dockets Branch (Room 230), 1919 M Street NW., Washington, DC. The complete text of this decision may also be purchased from the Commission's copy contractors, International Transcription Service, (202) 857–3800, 2100 M Street NW., Suite 140, Washington, DC 20037.

Provisions of the Regulatory Flexibility Act of 1980 do not apply to this proceeding.

Members of the public should note that from the time a Notice of Proposed Rule Making is issued until the matter is no longer subject to Commission consideration or court review, all *ex parte* contacts are prohibited in Commission proceedings, such as this one, which involve channel allotments. See 47 CFR 1.1231 for rules governing permissible *ex parte* contact.

For information regarding proper filing procedures for comments, See 47 CFR 1.415 and 1.420.

List of Subjects in 47 CFR Part 73

Radio broadcasting.

Federal Communications Commission.

Mark N. Lipp,

Chief, Allocations Branch, Policy and Rules Division, Mass Media Bureau.

[FR Doc. 87–10209 Filed 5–5–87; 8:45 am]

BILLING CODE 6712–01–M

Notices

Federal Register
Vol. 52, No. 87
Wednesday, May 6, 1987

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.

AGENCY FOR INTERNATIONAL DEVELOPMENT

Housing Guaranty Program; Investment Opportunities

The Agency for International Development (A.I.D.) has authorized the guaranty of a loan to Sri Lanka as part of A.I.D.'s overall development assistance program. The proceeds of this loan will be used to finance shelter projects for low income families in Sri Lanka. The name and address of the representative of the Borrower to be contacted by interested U.S. lenders or investment bankers, the amount of the loan and project number are indicated below:

Sri Lanka

Project: 383–HG–003—$15,000,000
Attention: Dr. A.C. Randeni, Director of Economic Affairs Ministry of Finance and Planning, Colombo 1, Sri Lanka
Telephone: 549595
Telex: 21409 FINMIN C.E.
c/o Mission of the Democratic Socialist Republic of Sri Lanka to the United Nations, 630 Third Avenue, 20th Floor, New York, NY 10017
Telephone: 212/986–7040
Telex: 420646 or 423040 Lankrep. NY

Interested investors should telegram their bids to the Borrower's representative on May 21, 1987, but no later than 12:00 noon New York Time. Bids should be open at least 24 hours. Copies of all bids should be simultaneously sent to the following addresses:

Mr. B. Maiadera, Acting Secretary, Ministry of Finance and Planning, Colombo 1, Sri Lanka, Telex: 21409 FINMIN C.E.

Mr. Jeremy Hagger, Mission Housing Advisor, USAID/Colombo, c/o American Embassy, Colombo, Sri Lanka, Telephone: 94–1–21271, Ext. 240, Telex: 0803–21305 AMEMB CE

Agency for International Development, Michael G. Kitay, Herbert T. McDevitt, PRE/H, Room 3208 N.S, Washington, D.C. 20523, Telex No.: 892703 AID WSA, Telefax No. 202/647–1805

Note.—Telefax is preferred communication).

For the $15,000,000 loan the Borrower is requesting and will consider three (3) bidding options as follows: (1) Fixed, (2) Floating and (3) Floating with option to convert to Fixed.

Fixed rate bids should provide for prepayment at borrowers option if pricing is not materially affected by it (the borrower is interested in obtaining a call option as early as possible).

Floating rate bids (with or without option to convert) should specify the index on which the interest is to be based, margin over the index, frequency of reset and frequency of payments. While margin over index is primary concern, attention will also be given to ease of conversion from a floating rate to a fixed rate obligation which will be governed by market conditions at the conversion date. Such conversion shall be solely at the option of the borrower with the approval of A.I.D. For convertible loans, bidders should specify (1) earliest date at which loan can be converted consistent with no (or nominal) penalty and (2) costs associated with the remarketing and nature of the remarketing commitment (i.e., underwritten or best efforts.)

Other requirements of responsive bids:

1. Full amount of loan will be disbursed at same time as closing of loan.

2. The loan shall be for up to thirty (30) year period.

3. There will be a ten (10) year grace period on the repayment of principal; no grace period on interest payments.

4. All investment expenses, fees and costs will be paid at closing from the proceeds of the loan.

Selection of investment bankers and/or lenders and the terms of the loan are initially subject to the individual discretion of the Borrower and thereafter subject to approval by A.I.D. The lender and A.I.D. shall enter into a Contract of Guaranty, covering the loan. Disbursements under the loan will be subject to certain conditions required of the Borrower by A.I.D. as set forth in agreements between A.I.D. and the Borrower.

The full repayment of the loan will be guaranteed by A.I.D. The A.I.D. guaranty will be backed by the full faith and credit of the United States of America and will be issued pursuant to authority in section 222 of the Foreign Assistance Act of 1961, as amended (the "Act").

Lenders eligible to receive an A.I.D. guaranty are those specified in section 238(c) of the Act. They are: (a) U.S. citizens; (2) domestic U.S. corporations, partnerships, or associations substantially beneficially owned by U.S. citizens; (3) foreign corporations whose share capital is at least 95 percent owned by U.S. citizens; and, (4) foreign partnerships or associations wholly owned by U.S. citizens.

To be eligible for an A.I.D. guaranty, the loan must be repayable in full no later than the thirtieth anniversary of the disbursement of the principal amount thereof. The maximum rate of interest shall be a rate which in A.I.D.'s opinion is similar to current borrowing rates for Housing and Urban Development housing mortgage loans.

Information as to the eligibility of investors and other aspects of the A.I.D. housing guaranty program can be obtained from:

Peter M. Kimm, Director, Office of Housing and Urban Programs, Agency for International Development, Room 6212 N.S., Washington, DC 20523, Telephone: 202/647–9082

Dated: April 30, 1987.

Mario Pita,

Deputy Director, Office of Housing and Urban Programs.

[FR Doc. 87–10216 Filed 5–5–87; 8:45 am]

BILLING CODE 6116–01–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: October 1987 School Enrollment Supplement

Form Number: Agency—CPS-1; OMB—0607-0464
Type of Request: Reinstatement of a previously approved collection
Burden: 57,000 respondents; 3,200 reporting hours
Needs and Uses: This supplement provides basic school enrollment data for persons 3 years old or older who are enrolled in elementary school, high school, college and special schools as well as for children enrolled in nursery schools and kindergarten. These data are collected from each household in the full Current Population Survey
Affected Public: Individuals or households
Frequency: On occasion
Respondent's Obligation: Voluntary
OMB Desk Officer: Don Arbuckle, 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 Don Arbuckle, OMB Desk Officer, Room 3228 New Executive Office Building, Washington, DC 20503.

Dated: May 1, 1987.

Edward Michals,

Departmental Clearance Officer, Office of Management and Organization.

[FR Doc. 87-10316 Filed 5-5-87; 8:45 am]

BILLING CODE 3510-07-M

Office of the Secretary

Federal Coal Export Commission: Committee Meeting

AGENCY: Office of the Secretary, U.S. Department of Commerce.

SUMMARY: Pursuant to section 10(a)(2) of the Federal Advisory Committee Act, 5 U.S.C. App I (1976), as amended, notice is hereby given that the Federal Coal Export Commission (Commission) will hold the final meeting of the Committee on Employment, Productivity and Adjustment. The date and time of the meeting is as follows:

Tuesday, May 19, 1987, 2:00-4:00 p.m.

The meeting will be held in room 3708 at the U.S. Department of Commerce, Herbert C. Hoover Building, 14th and Constitution Avenue, NW., Washington, DC.

At this meeting, the Committee on Employment, Productivity and Adjustment will discuss its final draft report recommendations.

The public is welcome to attend this meeting and will be admitted to the extent that seating is available. Public comments are welcome and persons wishing to make formal statements should notify the Executive Director of the Commission in advance of the meeting. The Chair retains the right to place reasonable limits on the duration of public comments. Written statements may be submitted before or after each session.

For further information contact Robert H. Brumley, Executive Director of the Commission, at (202) 377-4772.

Signed in Washington, DC, this 1st day in May, 1987.

Robert H. Brumley,

Executive Director.

[FR Doc. 87-10429 Filed 5-5-87; 8:45 am]

BILLLING CODE 3510-BW-M

National Bureau of Standards

[Docket No. 50953-7031]

Federal Information Processing Standard 129, Optical Character Recognition (OCR) Dot Matrix Character Sets for OCR-MA

AGENCY: National Bureau of Standards, Commerce.

ACTION: The purpose of this notice is to announce that the Secretary of Commerce (Secretary) has approved a new standard, which will be published as FIPS Publication 129.

SUMMARY: On November 8, 1985, notice was published in the **Federal Register** (50 FR 46474) that a Federal Information Processing Standard for Optical Character Recognition (OCR) Dot Matrix Character Sets for OCR-MA was being proposed for Federal use.

The written comments submitted by interested parties and other material available to the Department relevant to this standard were reviewed by NBS. On the basis of this review, NBS recommended that the Secretary approve the standard as a Federal Information Processing Standard (FIPS), and prepared a detailed justification document for the Secretary's review in support of that recommendation.

The detailed justification document which was presented to the Secretary, and which includes an analysis of the written comments received, is part of the public record and is available for inspection and copying in the Department's Central Reference and Records Inspection Facility, Room 6628, Herbert C. Hoover Building, 14th Street between Pennsylvania and Constitution Avenues NW., Washington, DC 20230.

The approved standard contains two portions: (1) An announcement portion which provides information concerning the applicability, implementation, and maintenance of the standard and (2) a specifications portion which deals with the technical requirements of the standard. Only the announcement portion of the standard is provided in this notice.

DATE: This standard is effective October 30, 1987. Immediate use by Federal agencies is strongly recommended when the use of dot matrix printers would contribute to operational benefits, efficiency or economy.

ADDRESS: Interested parties may purchase copies of this new standard, including the technical specifications portion, from the National Technical Information Service (NTIS). Specific ordering information from NTIS for this standard is set out in the Where to Obtain Copies Section of the announcement portion of the standard.

FOR FURTHER INFORMATION CONTACT: Mr. Thomas Bagg, Institute for Computer Sciences and Technology, National Bureau of Standards, Gaithersburg, MD 20899, (301) 975-2909.

Dated: April 30, 1987

Ernest Ambler,

Director.

Federal Information Processing Standards Publication 129

Announcing the Standard for Optical Character Recognition (OCR)—DOT Matrix Character Sets for OCR-MA

Federal Information Processing Standards Publications are issued by the National Bureau of Standards pursuant to section 111(f)(2) of the Federal Property and Administrative Services Act of 1949, as amended. Pub. L. 89-306 (79 Stat. 1127). Executive Order 11717 (38 FR 12315, dated May 11, 1973) and Part 6 of Title 15 Code of Federal Regulations (CFR).

Name of Standard. Optical Character Recognition (OCR)—Dot Matrix Character Sets for OCR-MA (FIPS PUB 129).

Catgegory of Standard. Hardware Standard, Character Recognition.

Explanation. This Federal Information Processing Standard announces the adoption of the American National Standard, X3.111-1986, *Optical Character Recognition (OCR)—Matrix Character Sets for OCR-MA*, as a Federal Information Processing Standard. This standard provides the description, scope, and application rules for a character set that is generated by dot matrix printers and is designed to

match, as close as practical, the design of the OCR-A character set. A major purpose of this OCR standard is to reduce the cost of data input into ADP systems which use Optical Character Recognition (OCR) equipment.

Approving Authority. Secretary of Commerce.

Maintenance Agency. U.S. Department of Commerce, National Bureau of Standards (Institute for Computer Sciences and Technology).

Cross Index. American National Standard Optical Character Recognition (OCR)—Matrix Character Sets for OCR-MA (ANSI X3.111-1986).

Related Documents

a. Federal Information Processing Standards Publication (FIPS PUB) 32-1, *Character Sets for Optical Character Recognition (OCR)* (adopts three ANSI standards: X3.2-1970(R1976), X3.17-1981, *American National Standard for Character Sets for Optical Character Recognition (OCR-A).* [applicable to this standard], X3.49-1975(R1982).

b. Federal Information Processing Standards Publication (FIPS PUB) 40, *Guideline for Optical Character Recognition Forms.*

c. Federal Information Processing Standards Publication (FIPS PUB) 85, *Optical Character Recognition (OCR) Inks* (adopts ANSI X3.86-1980, *American National Standard for Optical Character Recognition (OCR) Inks*).

d. Federal Information Processing Standards Publication (FIPS PUB) 90, *Guideline for Optical Character Recognition (OCR) Print Quality* (adopts ANSI X3.99-1983, *American National Standard for Information Systems—Optical Character Recognition (OCR)—Guidelines for OCR Print Quality*).

e. Federal Information Processing Standards Publication (FIPS PUB) 1-2, *Code for Information Interchange, Its Representatations, Subsets, and Extensions* (adopts three ANSI standards X3.4-1977, *American National Standard for Code for Information Interchange (ASCII)* [applicable to this standard], X3.32-1973, X3.41-1974).

Applicability

This standard is applicable to Optical Character Recognition (OCR) systems utilizing any part or all of a character set contained herein when used in data entry systems. However, when data or information is being prepared using OCR techniques for the purposes of interchanging information, the appropriate graphic or control characters of FIPS PUB 1-2 *Code for Information Interchange, Its Representations, Subsets, and Extensions* slall be used for such interchange.

Specifications

This standard adopts in whole the American National Standard X3.111-1986, Optical Character Recognition (OCR)—Matrix Character Sets for OCR-MA.

Qualifications

The American National Standard Optical Character Recognition (OCR)—Matrix Character Sets for OCR-MA describes sets of characters and associated procedural rules for use with characters generated by dot matrix printers which match OCR-A characters as closely as practical. Additional standards and information sources are required to describe the full set of necessary characteristics of an installed, operating OCR system. In general, these cover the topics of OCR Forms, OCR Print Quality, and OCR Tutorial Papers.

This standard shows variations in conformance to OCR-A shapes for different sets of characters, depending on the matrix resolution of the printed character. The character sets are defined by a specific combination of "dots" on a fixed grid. The character sets for OCR-MA1, OCR-MA2, and OCR-MA3 are defined. OCR-M1 can be met with 5x7, 7x7, 7x9 and 9x9 matrices. OCR-M2 can be met with 7x7, 7x9, and 9x9 matrices. The OCR-M3 characters can be obtained with the 7x9 and the 9x9 matrices. In all cases, the 9x9 matrix is the recommended matrix for the best recognition results. The 7x9 matrix is the first alternative, the 7x7 is the second, and the 5x7 is the last recommended alternative to 9x9. The 9x9 matrix characters, illustrated in Figures 7 through 58, of the referenced American National Standard and the 7x7 matrix characters illustrated in Figures 110 through 139, are designed to increase printer through-put by imposing the restriction that there are no dots on adjacent horizontal positions. Unlike OCR-A, where the emphasis in on reader performance, this standard has been written to reduce printing constraints to a level that will allow lower resolution printers to be usefully applied for OCR applications.

The American National Standard ANSI X3.111-1986 incorporates many of the characteristics defined in European Computers Manufacturers Association (ECMA) Standard ECMA-51, "*Implementation of the Numeric OCR-A Font with 9x9 Matrix Printers,*" Standard ECMA-42, "*Alphanumeric Character Set for 7x9 Matrix Printers*", and Deutsches Institut fur Normung (DIN) Standard 66 008, *Font A for Optical Character Recognition; Character Representation by Dots Within 9x9 Matrix Dimensions*".

Matrices with resolutions of dot densities greater than 9x9 are not covered in this standard. However, higher resolution printers can create characters that meet the requirements of this standard. Often this can be accomplished by using a group of small dots closely spaced to create the same effect as one larger dot. High resolution matrix printers can also be used to create character sets that conform to FIPS 32-1.

Implementation Schedule

This standard is effective October 30, 1987. Immediate use by Federal Agencies is strongly recommended when the use of dot matrix printers would contribute to operational benefits, efficiency or economy.

Waivers

Under certain exceptional circumstances, the head of the agency is authorized to waive the application of the provisions of this FIPS PUB. Exceptional circumstances which would warrant a waiver are:

a. Significant, continuing cost or efficiency disadvantages will be encountered by the use of this standard and,

b. The interchange of information between the system for which the waiver is sought and other systems is not anticipated.

Agency heads may act only upon written waiver requests containing the information detailed above. Agency heads may approve requests for waivers only by a written decision which explains the basis upon 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 the Director, Institute for Computer Sciences and Technology, National Bureau of Standards, Gaithersburg, Maryland 20899.

When the determination on a waiver request 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 on an acquisition or, if the waiver determination is made after that notice is published, by amendment to such notice.

A copy of the waiver request, any supporting documents, the document approving the waiver request and any supporting and accompanying document(s), with such deletions as the

agency is authorized and decides to make under 5 U.S.C. 552(b), shall be part of the procurement documentation and retained by the agency.

Where to Obtain Copies

Copies of this publication are for sale by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161. (Sale of the included specifications document is by arrangement with the American National Standards Institute.) When ordering, refer to Federal Information Processing Publication 129 (FIPSPUB129), and title. Payment may be made by check, money order, purchase order, credit card, or deposit account.

[FR Doc. 87-10221 Filed 5-5-87; 8:45 am]

BILLING CODE 3510-CN-M

National Oceanic and Atmospheric Administration

Marine Mammals; Modification of Permit; Center for Coastal Marine Studies (P79D); Modification No. 1 to Permit No. 496

Notice is hereby given that pursuant to the provisions of § 216.33(d) and (e) of the Regulations Governing the Taking and Importing of Marine Mammals (50 CFR Part 216), Scientific Research Permit No. 496 issued to Center for Coastal Marine Studies, University of California at Santa Cruz, Santa Cruz, California 95064 on April 8, 1985, (50 FR 15214), is modified as follows:

Section B.7 Is Added

"7. The Permit Holder is authorized to take a series of small, circular skin biopsies from twenty weaned elephant seal pups (*Mirounga angustirostris*). The animals shall be flipper tagged prior to release. If any of these animals are subsequently reported as stranded, this shall be included in the annual report as well as information regarding the animals' behavioral responses to the biopsy sampling procedure and the procedure's long term effect on the animals."

Section B.8 Is Added.

"8. The biopsy sampling shall be suspended and the experimental protocol and handling procedures reviewed and, if necessary, revised to the satisfaction of the Service should the activity result in any unforeseen complications in regard to wound healing or other adverse effects."

This modification becomes effective upon publication in the **Federal Register.**

Documents submitted in connection with the above modification are available for review in the following offices:

Office of Protected Species and Habitat Conservation, National Marine Fisheries Service, 1825 Connecticut Avenue NW., Rm. 805, Washington, DC; and

Director, Southwest Region, National Marine Fisheries Service, 300 South Ferry Street, Terminal Island, California 90731-7415.

Dated: April 30, 1987.

Dr. Nancy Foster,

Director, Office of Protected Species and Habitat Conservation, National Marine Fisheries Service.

[FR Doc. 87-10254 Filed 5-5-87; 8:45 am]

BILLING CODE 3510-22-M

COMMODITY FUTURES TRADING COMMISSION

Subpoena; Release of Information on Administrative Proceeding

The Commodity Futures Trading Commission ("CFTC") hereby gives notice pursuant to section 8(f) of the Commodity Exchange Act, 7 U.S.C. 12(f), to persons who submitted information to the CFTC that is the subject of a subpoena served on the CFTC on April 14, 1987.[1] The subpoena directs the CFTC to produce information previously disclosed, in accordance with 17 CFR 10.42(b), to the respondents named in the Commission administrative proceeding *In the Matter of First Commodity Corporation of Boston, Donald R. Schleicher, Richard A. Schleicher, David C. Connolly, David J. Aucella, Ross A. Barnard, Michael A. Coffey, Haig Fisher, Richard Daniels, Calvin L. Word, John P. Strauss, Peter S. Marron, and Bruce A. Piazza,* CFTC Docket No. 86-6. Documents produced pursuant to the subpoena may contain information submitted to the Commission during the investigation culminating in the administrative proceeding. Any person who wishes a copy of the subpoena should contact Joel R. Maillie, Esq., Office of the General Counsel, CFTC, 2033 K Street NW., Washington, DC 20581, (202) 254-9880.

[1] The subpoena was issued at the behest of the plaintiffs in the District of Massachusetts action encaptioned *In re FCCB Customer Accounts Litigation*, Multi-District Litigation Docket No. 713 (Wolf, D.J.). The subpoena issued out of the United States District Court for the District of Columbia. *In re FCCB Customer Accounts Litigation*, F.S. 87-0214.

Objections to release should be filed in the United States District Court for the District of Columbia. If any objections are filed, the Commission will stay the release of information pending court resolution. In the absence of objections, the Commission will disclose information pursuant to the subpoena after the expiration of fourteen days from the date of this publication.

Issued: April 30, 1987.

Whitney Adams,

Deputy General Counsel.

[FR Doc. 87-10256 Filed 5-5-87; 8:45 am]

BILLING CODE 6351-01-M

DEPARTMENT OF DEFENSE

Office of the Secretary

Defense Intelligency Agency Defense Intelligence College; Closed Meeting

AGENCY: Defense Intelligency Agency Defense Intelligence College.

ACTION: Notice of closed meeting.

SUMMARY: Pursuant to the provisions of subsection (d) of section 10 of Pub. L. 92-463, as amended by section 5 of Pub. L. 94-409, notice is hereby given that a closed meeting of the DIA Defense Intelligency College Board of Visitors has been scheduled as follows:

Dates: Wednesday-Friday, 20-22 May 1987; 9:00 a.m. to 4:00 p.m. on 20-21 May, 9:00 to 11:00 a.m. on 22 May.

Address: The DIAC, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Dr. Robert L. De Gross, Provost, DIA Defense Intelligence College, Washington, DC 20340-5485. (202/373-3344).

SUPPLEMENTARY INFORMATION: The entire meeting is devoted to the discussion of classified information as defined in section 552b(c)(1), Title 5 of the U.S. Code and therefore will be closed to the public. The Committee will receive briefings on an discuss several current critical intelligence issues and advise the Director, DIA, as to the successful accomplishment of the mission assigned to the Defense Intelligence College.

Patricia H. Means,

OSD Federal Register Liaison Officer, Department of Defense.

April 30, 1987.

[FR Doc. 87-10249 Filed 5-5-87; 8:45 am]

BILLING CODE 3810-01-M

Defense Science Board Task Force on National Aerospace Plane (NASP); Change in Date of Advisory Committee Meeting

SUMMARY: The meeting of the Defense Science Board Task Force on National Aerospace Plane (NASP) scheduled for June 23–24, 1987 as published in the **Federal Register** (Vol. 52, No. 79, Page 13745, Friday, April 24, 1987, FR Doc. 87–9351) will be held on June 23–25, 1987. In all other respects the original notice remains unchanged.

April 30, 1987.

Patricia H. Means,

OSD Federal Register Liaison Officer, Department of Defense.

[FR Doc. 87–10248 Filed 5–5–87; 8:45 am]

BILLING CODE 3810–01–M

Department of the Army

Public Information Collection Requirement Submitted to OMB for Review

ACTION: Public information collection requirement submitted to OMB for review.

SUMMARY: The Department of Defense 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). Each entry contains the following information: (1) Type of submission; (2) title of Information; Collection and Form Number if applicable; (3) abstract statement of the need for and the uses to be made of the information collected; (4) type of respondent; (5) an estimate of the number of responses; (6) an estimate of the total number of hours needed to provide the information; (7) to whom comments regarding the information collection are to be forwarded; and (8) the point of contact for whom a copy of the information proposal may be obtained.

Extension

Marksmanship Club Annual Report, DA Forms 1275, 1275–1, and 1277 (OMB No. 0702–0020)

Affiliated marksmanship clubs are issued government-owned material in support of the Army program. Based upon membership and club activities, clubs are provided with requested supplies to promote marksmanship training. Statistics are collected in order to supply information to the Director for congressional and budgetary actions.

Non-profit Institutions (Marksmanship Clubs)

Responses: 2,500

Burden Hours: 2,700

ADDRESSES: Comments are to be forwarded to Mr. Edward Springer, Office of Management and Budget, Desk Officer, Room 3235, New Executive Office Building, Washington DC 20503 and Mr. Daniel J. Vitiello, DOD Clearance Officer, WHS/DIOR, 1215 Jefferson Davis Highway, Suite 1204, Arlington, Virginia 22202–4302, telephone number (202) 746–0933.

SUPPLEMENTARY INFORMATION: A copy of the information collection proposal may be obtained from Ms. Angela R. Petrarca, SAIS–ADR, Room 1C638, The Pentagon, Washington, DC 20310–0700, telephone (202) 694–0754.

Linda M. Lawson,

Alternate OSD Federal Register Liaison Officer, Department of Defense

May 1, 1987.

[FR Doc. 87–10318 Filed 5–5–87; 8:45 am]

BILLING CODE 3810–01–M

Department of the Navy

Public Information Collection Requirement Submitted to OMB for Review

ACTION: Public information collection requirement submitted to OMB for review.

SUMMARY: The Department of Defense 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). Each entry contains the following information: (1) Type of submission; (2) title of information collection and form number if applicable; (3) abstract statement of the need for and the uses to be made of the information collected; (4) type of respondent; (5) an estimate of the number of responses; (6) an estimate of the total number of hours needed to provide the information; (7) to whom comments regarding the information collection are to be forwarded; (8) the point of contact from whom a copy of the information proposal may be obtained.

Extension

Measuring and Scoring Physical Aptitude for the United States Naval Academy 0703–0040

NDW–USNA–GRB–1110/17

Information is used to predict candidate's aptitude for the physical education program at the Academy (requirements are one less than plebe year minimums) and also to test coordination, physical strength, speed, agility and endurance.

Individuals or households

Responses 10,000

Burden hours 5,000

ADDRESSES: Comments are to be forwarded to Mr. Edward Springer, Office of Management and Budget, Desk Officer, Room 3235, New Executive Office Building, Washington, DC 20503 and Mr. Daniel J. Vitiello, DOD Clearance Officer, WHS/DIOR, 1215 Jefferson-Davis Highway, Suite 1204, Arlington, VA 22202–4302, telephone (202) 746–0933.

FOR FURTHER INFORMATION CONTACT: A copy of the information collection proposal may be obtained from Mr. Nick S. Pantelides, Admissions Director, Department of the Navy, United States Naval Academy, Annapolis, Maryland 21402, telephone (301) 267–4336.

Linda Lawson,

Alternate OSD Federal Register Liaison Officer, Department of Defense.

May 1, 1987.

[FR Doc. 87–10319 Filed 5–5–87; 8:45 am]

BILLING CODE 3810–01–M

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

[Docket Nos. ER87–383–000, et al.]

Alabama Power Company, et al.; Electric Rate and Corporate Regulation Filings

April 30, 1987.

Take notice that the following filings have been made with the Commission:

1. Alabama Power Co.

[Docket No. ER87–383–000]

Take notice that on April 13, 1987 Alabama Power Company (the Company) tendered for filing a Delivery Point Specification Sheet to the Partial Requirements Service and Complementary Service Agreement between the Company and the Alabama Municipal Electric Authority which supersedes and replaces the Delivery Point Specification Sheet filed August 6, 1986.

The Company requests that the Commission waive the notice requirements pursuant to § 35.11 of tne regulations to allow service to be effective as of March 1, 1987.

The Company states that a copy of this filing has been mailed to the Alabama Municipal Electric Authority

and the Utilities Board of the City of Foley.

Comment date: May 18, 1987, in accordance with Standard Paragraph E at the end of this notice.

2. Florida Power Corp.

[Docket No. ER87-307-000]

Take notice that on April 3, 1987, Florida Power Corporation (The Company) tendered for filing a complete set of the correct 1985 cost support schedule for the subject interchange contract after an incorrect schedule had been attached to the Company's March 18, 1987 filing in this docket.

Comment date: May 13, 1987, in accordance with Standard Paragraph E at the end of this notice.

3. Montaup Electric Co.

[Docket No. ER87-362-000]

Take notice that on April 2, 1987, Montaup Electric Company (Montaup) tendered for filing a Transmission Service Agreement between Montaup and Hudson Light and Power Department to be effective November 1, 1986.

Montaup requests waiver of the 60 day notice requirement in order to permit the agreement to become effective on November 1, 1986.

Comment date: May 13, 1987, in accordance with Standard Paragraph E at the end of this notice.

4. North Arkansas Electric Cooperative, Inc.

[Docket No. EL87-32-000]

Take notice that on April 20, 1987, North Arkansas Electric Cooperative, Inc. (NAEC) tendered for filing a Complaint and Petition for Declaratory Order against Arkansas Power & Light Company, (AP&L).

NAES alleges that AP&L has violated the terms of a rate schedule and Agreement by calculating NAEC's billings under the wrong rate schedule and tariff.

Comment date: May 29, 1987, in accordance with Standard Paragraph E at the end of this document.

5. San Diego Gas & Electric Co.

[Docket No. ER87-367-000]

Take notice that on April 10, 1987, San Diego Gas & Electric Company (SDG&E) tendered for filing a Notice of Termination of the Loop Flow Agreement between the Western Systems Coordinating Council and its participating members and SDG&E, FERC Rate Schedule No. 53.

SDG&E requests termination of said Agreement as of August 31, 1985, pursuant to its terms and a waiver of the Commission's prior Notice requirements.

Copies of this filing have been served upon the California Public Utilities Commission and the Western Systems Coordinating Council and its participating members.

Comment date: May 13, 1987, in accordance with Standard Paragraph E at the end of this notice.

Standard Paragraph

E. 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 Rules 211 and 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 the comment date. 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.

Kenneth F. Plumb,

Secretary.

[FR Doc. 87-10282 Filed 5-5-87; 8:45 am]

BILLING CODE 6717-01-M

[Docket No. GP86-56-000]

Cabot Pipeline Corp.; Request for Declaratory Order

Issued: May 1, 1987.

Take notice that on September 12, 1986, Cabot Pipeline Corporation (Cabot) filed with the Commission pursuant to Rule 207 of the Commission's regulations a petition for a declaratory order. Cabot requests the Commission to declare that payments to EM Nominee Partnership Company (Nominee) pursuant to certain monthly take-or-pay provisions of two contracts would violate section 504(a)(1) of the Natural Gas Policy Act of 1978 (NGPA), 15 U.S.C. 3414(a)(1), and § 270.101(a) of the Commission's regulations.

Cabot states that it purchases natural gas from Nominee under two natural gas purchase contracts which are subject to the maximum lawful price established by section 105(b)(3) of the NGPA. According to Cabot, Article IV of the gas purchase contracts contains take-or-pay clauses which obligate Cabot to take an average "annual" contract quantity based on a percentage of Nominee's gas well deliverability adjusted to an annual rate. If the actual takes are less than the contract quantity, Cabot must make a take-or-pay payment. Under the agreement, Cabot has an opportunity to make up the gas for which it has paid but not taken; however, the make up must occur within five years of the year payments were made, or before the termination of the contract, whichever is shorter.

Cabot further states that Article IV, section 4, of the contracts imposes a separate, "monthly" take-or-pay requirement and does not allow Cabot an opportunity to make up gas paid for but not taken or to recoup take-or-pay payments. Cabot states that this take-or-pay provision obligates it each month to take at least 50% of the daily contract quantity of gas multiplied by the number of days in the month. According to Cabot, during several months of the contract year it did not take gas from Nominee at the monthly contract rate, and Nominee subsequently invoiced Cabot pursuant to the section 4 contract take-or-pay provisions. Cabot alleges it has not been allowed make up rights with respect to the gas paid for but not taken pursuant to this section and, therefore, payment of the amounts invoiced by Nominee would represent payments in excess of the maximum lawful price prescribed under section 105(b)(3) of the NGPA. Cabot requests the Commission to execute its statutory responsibilities by ruling that Nominee may not collect take-or-pay payments pursuant to Article IV, section 4 of the gas purchase contracts.

Any person desiring to be heard or to protest this petition should file a motion to intervene or protest in accordance with Rules 211 and 214 of the Commission's rules of practice and procedure. All motions to intervene or protests should be submitted to the Federal Energy Regulatory Commission, 825 North Capitol Street, NE., Washington, DC 20426, not later than 30 days after publication of this notice in the **Federal Register.** All protests will be considered by the Commission but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a motion to intervene in accordance with Rule 214. Copies of the petition filed in this proceeding are on file with the Commission and available for public inspection.

Kenneth F. Plumb,

Secretary.

[FR Doc. 87-10277 Filed 5-5-87; 8:45 am]

BILLING CODE 6717-01-M

MidCon Texas Pipeline Corp.; Petition for Adjustment

May 1, 1987.

On April 10, 1986, MidCon Texas Pipeline (MidCon) filed with the Commission a petition for adjustment under section 502(c) of the Natural Gas Policy Act of 1978 (NGPA). MidCon seeks an adjustment from § 284.123(b)(1)(ii) so that the company can use existing intrastate transportation rates as the applicable rates for transportation under section 311 of the NGPA. MidCon states that the rate was established using a cost-of-service methodology and is part of a tariff filed with the Railroad Commission of Texas (RRC).

MicCon Texas is an intrastate pipeline within the meaning of section 2(16) of the NGPA. MidCon owns a 77.6 mile pipeline, running from Jim Hogg County to Nueces County, Texas, that is being utilized for section 311 transportation and for which MidCon seeks the adjustment. On January 1, 1987, MidCon commenced its first transportation services pursuant to section 311(a)(2) of the NGPA. These services are being provided pursuant to two Gas Transportation Agreements dated January 1, 1987 between MidCon and (1) TransAmerican Natural Gas Corporation ("TransAmerica"), and (2) MidCon Marketing Corp. ("MidCon Marketing"). The service under the agreement with TransAmerican is on behalf of Natural Gas Pipeline Company of America ("Natural") and Trunkline Gas Company ("Trunkline"), both interstate pipeline companies. The service under the agreement with MidCon Marketing is on behalf of Natural. MidCon is proposing to charge a rate which has been computed by reference to the rate MidCon has filed with the RRC for comparable intrastate service. MidCon states that the section 311 service being provided by MidCon on behalf of Natural and Trunkline is comparable to the transportation services under MidCon's comparable intrastate rate schedules.

MidCon states that since it does not offer city-gate service, it cannot compute its section 311 rates under § 284.123(b)(1)(ii). MidCon requests to use its industrial intrastate tariff rate as the transportation component of its NGPA section 311 transportation rate.

If granted the adjustment requested herein, MidCon would file and pursue and application for a cost-based determination by the RRC that MidCon's industrial intrastate tariff rate is just and reasonable.

MidCon states that an adjustment from the Commission's regulations is necessary to prevent inequities that would result from requiring MidCon to make a cost-of-service presentation to the FERC for its section 311 transaction while other similar intrastate pipelines are able to qualify their cost-based tariffs without such a proceeding.

The procedures applicable to the conduct of this adjustment proceeding are found in Subpart K of the Commission's Rules of Practice and Procedure [18 CFR 385.1101 *et seq.* (1986)]. Any person desiring to participate in this proceeding must file a motion to intervene in accordance with this provision of Subpart K within 15 days after publication of this notice in the **Federal Register.** MidCon's petition is on file with the Commission and is available for public inspection.

Kenneth F. Plumb,

Secretary.

[FR Doc. 87-10279 Filed 5-15-87; 8:45 am]

BILLING CODE 6717-01-M

[Docket No. SA87-38-000]

Morsey Oil and Gas Corp.; Petition for Adjustment

May 1, 1987.

Take notice that on March 2, 1987, Morsey Oil and Gas Corporation (Morsey) filed with the Commission a petition for adjustment pursuant to section 502(c) of the Natural Gas Policy Act of 1978 and Part 385 (Subpart K) of the Commission's regulations. Morsey seeks waiver of its obligation under Commission Order Nos. 399, 399-A, and 399-B requiring payment of Btu adjustment refunds by first sellers of natural gas.

Morsey states the following in support of the petition for relief. It is a small operating company which owned no working interest in the Milton Lease, Alice, Texas. Sales from the one shallow gas well on this property were made to Valero Transmission Company. The well was plugged years ago. The partnership which owned a 75% working interest no longer exists; and, the 25% royalty owners are both dead. Further, Morsey states payment of the refund obligation attributable to these interests ($1,510.87) will cause the company financial hardship because it has no funds for repayment.

The procedures applicable to the conduct of this waiver proceeding are found in Subpart K of the Commission's rules of practice and procedure. Any person desiring to participate in this adjustment proceeding must file a motion to intervene in accordance with the provisions of Rules 214 and 1106 of the Commission's rules of practice and procedure. All motions to intervene must be filed within 15 days after publication of this notice in the **Federal Register.**

Kenneth F. Plumb,

Secretary.

[FR Doc. 87-10280 Filed 5-5-87; 8:45 am]

BILLING CODE 6717-01-M

[Docket No. RP87-47-002]

Phillips Gas Pipeline Co.; Compliance Filing

May 1, 1987.

Take notice that on April 27, 1987, Phillips Gas Pipeline Company ("PGPL") filed, pursuant to Part 154 of the Federal Energy Regulatory Commission's ("Commission") Regulation under the Natural Gas Act, substitute original tariff sheets to its FERC Gas Tariff, Original Volume No. 1 and such supporting documentation as required by the Commission's Order in the referenced docket.

PGPL states that the tendered substitute tariff sheets reflect its understanding of the required modifications to its tariff as mandated by the "Order Accepting For Filing And Suspending Tariff Sheets, Subject To Refund And Conditions, And Establishing Hearing" issued April 1, 1987 in the referenced docket.

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). All such motions or protests should be filed on or before May 11, 1987. 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.

Kenneth F. Plumb,

Secretary.

[FR Doc. 87-10281 Filed 5-5-87; 8:45 am]

BILLING CODE 6717-01-M

[Docket Nos. CP86-466-002, et al.]

Natural Gas Certificate Filings; Southern Natural Gas Co., et al.

April 30, 1987.

Take notice that the following filings have been made with the Commission:

1. Southern Natural Gas Co.

[Docket No. CP86-466-002]

Take notice that on April 16, 1987, Southern Natural Gas Company (Southern), P.O. Box 2563, Birmingham, Alabama 35202-2563 filed in Docket No. CP86-466-002 a petition to amend the order issued June 20, 1986, as extended by order issued September 11, 1986, pursuant to section 7 of the Natural Gas Act, all as more fully set forth in the petition to amend which is on file with the Commission and open to public inspection.

By its Order Issuing Limited-Term Certificates issued June 20, 1986, and its Order Extending Certificates issued September 11, 1986, in this proceeding, the Commission authorized Southern to provide interruptible transportation of up to 3 billion Btu equivalent of natural gas per day for the Utilities Board of the City of Sylacauga, Alabama (Sylacauga), for a one-year term expiring June 20, 1987.

In its petition to amend, Southern, in accordance with an amended agreement with Sylacauga requests that the authorized term be extended for a limited term ending October 31, 1988, and that the transportation quantity authorized in the certificate be increased to 8.435 billion Btu equivalent of natural gas per day. Southern states that it has been advised by Sylacauga that Sylacauga has arranged to obtain additional sources of supply from additional sources to supplement increased requirements of its industrial end-use customers.

Comment date: May 21, 1987, in accordance with the first subparagraph of Standard Paragraph F at the end of this notice.

2. Columbia Gas Transmission Corp.

[Docket No. CP87-284-000]

Take notice that on April 10, 1987, Columbia Gas Transmission Corporation (Applicant), 1700 MacCorkle Avenue, SE., Charleston, West Virginia 25314, filed in Docket No. CP87-284-000 an application pursuant to section 7(c) of the Natural Gas Act for a certificate of public convenience and necessity authorizing the continued operation of certain existing natural gas storage fields and related facilities, all as more fully set forth in the application which is on file with the Commission and open to public inspection.

Applicant states that the purpose of this filing is to assure Applicant's ability to condemn exclusive gas storage easements under section 7(h) of the Natural Gas Act, and thereby protect the integrity of its storage fields. It is indicated that this filing resulted from a holding in *Columbia Gas Transmission Corp. v. Exclusive Gas Storage Easement*, 578 F. Supp. 930 (N.D. Ohio 1983), *affirmed*, 776 F. 2d 125 (6th Cir. 1985) which found that Applicant did not have the right of condemnation for a certain tract of land because it was located outside of the geographical area designated on the exhibit maps contained in the application in which Applicant obtained certificate authority for the operation of the storage field.

Applicant seeks authorization for the continued operation as presently constituted of the following storage fields and related facilities:

(1) Benton Storage Field in Hocking and Vinton Counties, Ohio;

(2) Guernsey Storage Field in Coshocton, Guernsey, and Muskingum Counties, Ohio;

(3) Laurel Storage Field in Hocking County, Ohio;

(4) McArthur Storage Field in Vitnon County, Ohio; and

(5) Medina Storage Field in Medina County, Ohio.

Applicant states that there is a need to assure its right of condemnation for the gas storage easements in these fields, which would be bound by the court decision. Applicant further states that it undertook a review to determine the potential impact of the court decision on the operation of its existing storage fields. It is indicated that for the five storage fields herein, the description of the storage field, facilities and the overall scope of the storage operations, although deemed adequate by Applicant when authority for these existing storage fields was obtained, would not meet the Courts's map rule; thus, Applicant states that it must file this application to assure the right of condemnation of these fields.

Comment date: May 21, 1987, in accordance with Standard Paragraph F at the end of this notice.

3. Arkla Energy Resources, a division of Arkla, Inc.

[Docket No. CP87-292-000]

Take notice that on April 16, 1987, Arkla Energy Resources, a division of Arkla, Inc. (AER), P.O. Box 21734, Shreveport, Louisiana 71151, filed in Docket No. CP87-292-000 a request pursuant to §§ 157.205 and 157.212 of the Commission's Regulations under the Natural Gas Act (18 CFR 157.205 and 157.212) for authority to construct and operate taps and related facilities needed to deliver gas to certain consumers on behalf of Arkansas Louisiana Gas Company, a division of Arkla, Inc. (ALG), a resale customer of AER, under certificate authorizations issued in Docket Nos. CP82-384-000 and CP82-384-001 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.

It is stated that the sales tap would be located on AER's Line AM-163 in grant County, Arkansas, and initially would be used to provide service to the Sheridan Adult/Youth Activities Center on behalf of ALG. AER states that gas would be used for normal domestic and/or commercial purposes. The cost to construct the tap and related facilities is estimated to be $1,569. Peak day and annual deliveries are expected to be 4 Mcf and 1000 Mcf respectively, it is stated. AER advises that the gas would be billed at ALG's applicable retail rates, as provided under its currently effective rate schedules on file with the Arkansas Public Service Commission. Finally, AER states that the proposal would have a *de minimus* impact on its system supply.

Comment date: June 15, 1987, in accordance with Standard Paragraph G at the end of this notice.

4. Lone Star Gas Co., a Division of ENSERCH Corp.

[Docket No. CP87-290-000]

Take notice that on April 16, 1987, Lone Star Gas Company, a Division of ENSERCH Corporation (Lone Star), 301 South Harwood Street, Dallas, Texas 75201, filed in docket No. CP87-290-000 a request pursuant to § 157.205 of the Regulations under the Natural Gas Act (18 CFR 157.205) for authority to construct and operate sales taps and appurtenances under the certificate issued in Docket Nos. CP83-59-000 and CP83-59-001, as amended in Docket No. CP83-59-002, all as more fully set forth in the request on file with the Commission and open to public inspection.

Lone Star proposes to construct and operate sales taps and appurtenant facilities for the sale and delivery of natural gas in interstate commerce to the following customers:

Customer	Location	Annual volume (Mcf)
Terry Dyson	Denton County, Texas—Line FF.	100
Joe Shelton	Denton County, Texas—Line FF.	100
Bill Patterson	Grayson County, Texas—Line EBB.	220
Jack Coonrod	Bryan County, Oklahoma—Line E5.	3,500

Lone Start states that the sales would be at its residential and commercial rates as approved by the Oklahoma Corporation Commission and the Texas Railroad Commission. It is further stated the volumes of natural gas for the new customers would not have any significant impact on Lone Star's peak day or annual system operations.

Comment date: June 15, 1987, in accordance with Standard Paragraph G at the end of this notice.

5. Southern Natural Gas Co.

[Docket No. CP86–439–004]

Take notice that on April 9, 1987, Southern Natural Gas Company (Southern), P.O. Box 2563, Birmingham, Alabama 35202–2563 filed in Docket No. CP86–439–004 a petition to amend the order issued June 13, 1986, as amended, pursuant to section 7(c) of the Natural Gas Act so as to provide service to Columbia Nitrogen Corp. and Nipro, Inc. (CNC), from additional delivery points, all as more fully set forth in the petition which is on file with the Commission and open to public inspection.

It is stated that Southern is currently authorized to transport on an interruptible basis up to 76,000 MMBtu of gas per day purchased by CNC from various delivery points on Southern's contiguous pipeline system. Southern states that CNC has acquired the right to purchase natural gas from CNC Trading Corporation (CNC Trading) in addition to the sellers originally named in the transportation agreement. Southern requests authorization to amend its certificate to provide service from additional delivery points where the gas would be purchased by CNC from CNC Trading. Southern does not propose any other changes in the authorized service. No new facilities are proposed herein.

Comment date: May 21, 1987, in accordance with the first subparagraph of Standard Paragraph F at the end of this notice.

6. Southern Natural Gas Co.

[Docket No. CP86–432–002]

Take notice that on April 15, 1987, Southern Natural Gas Company (Southern), P.O. Box 2563, Birmingham, Alabama 35202–2563 filed in Docket No. CP86–432–002 a petition to amend the order issued June 13, 1986, as extended by order issued September 11, 1986, pursuant to section 7(c) of the Natural Gas Act, all as more fully set forth in the petition which is on file with the Commission and open to public inspection.

By its Order Issuing Limited-Term Certificates issued June 13, 1986, and its Order Extending Certificates issued September 11, 1986, in this proceeding, the Commission authorized Southern to provide interruptible transportation of up to 17 billion Btu equivalent of natural gas per day for Alabama Gas Corporation (Alagasco) acting as agent for Gulf States Steel, Inc. (Gulf States) for a one-year term expiring June 13, 1987.

In its petition to amend which is the subject of the present filing, Southern, in accordance with an amended agreement with Alagasco, requests that the authorized term be extended for a limited term ending October 31, 1988, and that the transportation quantity authorized in the certificate be increased to 22 billion Btu equivalent of natural gas per day. Southern states that it has been advised by Alagasco that Gulf States has arranged to obtain additional gas supplies from additional sources to provide for increased requirements at Gulf States' plant in Gadsden, Alabama.

Comment date: May 21, 1987, in accordance with the first subparagraph of Standard Paragraph F at the end of this notice.

7. Southern Natural Gas Co.

[Docket No. CP86–459–002]

Take notice that on April 10, 1987, Southern Natural Gas Company (Southern), P.O. Box 2563, Birmingham, Alabama 35202–2563 filed in Docket No. CP86–459–002 a petition to amend the order issued June 20, 1986, as amended, pursuant to section 7(c) of the Natural Gas Act so as to extend the term of transportation service and increase the transportation quantity for the end-user, Bickerstaff Clay Products Company, Inc. (Bickerstaff), all as more fully set forth in the petition which is on file with the Commission and open to public inspection.

Southern is currently authorized to perform limited-term transportation service on behalf of Atlanta Gas Light Company (Atlanta) acting as agent for Bickerstaff. It is stated that the June 20, 1986, certificate authorizes Southern to transport up to 1,500 MMBtu equivalent of natural gas per day for a term expiring June 20, 1987.

Southern states that it has received a request from Atlanta to continue the transportation service after the expiration of the existing certificate authorization. Southern further states that it has decided to continue to make interruptible transportation services available on its pipeline system for a limited term after October 31, 1987, the date to which it previously proposed to make transportation services available, and, in accordance therewith, Southern filed a revision to its statement of policy in Docket No. CP86–277–000, *et al.*, on February 17, 1987. It is indicated that in that revision to its policy, Southern stated that it was willing to seek limited-term certificate authorization to transport gas for either a new shipper or an existing shipper through October 31, 1988. Accordingly, Southern proposes herein to extend the term of the transportation service through October 31, 1988.

In addition to the extension of term proposed herein, Southern proposes to increase the transportation quantity from 1,500 MMBtu equivalent of natural gas per day to 1,700 MMBtu equivalent of gas per day. Southern indicates that it has been advised by Atlanta that Bickerstaff has arranged to obtain additional gas supplies in order to provide for increased requirements at its plant in Atlanta, Georgia. No other changes or construction of facilities is proposed herein.

Comment date: May 21, 1987, in accordance with the first subparagraph of Standard Paragraph F at the end of this notice.

8. Southern Natural Gas Co.

[Docket No. CP86–458–002]

Take notice that on April 10, 1987, Southern Natural Gas Company (Southern), P.O. Box 2563, Birmingham, Alabama 35202–2563 filed in Docket No. CP86–458–002 a petition to amend the order issued June 20, 1986, as amended, pursuant to section 7(c) of the Natural Gas Act so as to increase the transportation quantity and extend the term of the transportation service for the end-user, Bickerstaff Clay Products Company, Inc. (Bickerstaff), all as more fully set forth in the petition which is on file with the Commission and open to public inspection.

It is stated that the June 20, 1986, certificate, as amended, authorizes Southern to transport for Bickerstaff up to 2,200 MMBtu equivalent of natural gas per day for a term expiring June 20, 1987.

Southern states that it has received a request from Bickerstaff to continue the transportation service after the expiration of the existing certificate authorization. It is stated that in a

revision to its statement of policy which was filed with the Commission in Docket No. CP87–277–000, *et al.*, on February 17, 1987, Southern stated that it was willing to seek limited-term certificate authorization to transport gas for either a new shipper or an existing shipper through October 31, 1988. It is indicated accordingly, Southern and Bickerstaff agreed to extend the term of their transportation agreement through October 31, 1988.

In addition to the extension of term proposed herein, Southern proposes to increase the transportation quantity from 2,200 MMBtu equivalent of natural gas per day to 3,900 MMBtu of gas per day. Southern states that Bickerstaff has arranged to obtain additional gas supplies in order to provide for increased requirements at its plant in Russell County, Alabama. No other changes or construction of facilities is proposed herein.

Comment date: May 21, 1987, in accordance with the first subparagraph of Standard Paragraph F at the end of this notice.

9. Tennessee Gas Pipeline Co.; a Division of Tenneco Inc.

[Docket No. CP87–293–000]

Take notice that on April 16, 1987, Tennessee Gas Pipeline Company, a Division of Tenneco Inc. (Tennessee), P.O. Box 2511, Houston, Texas 77252, filed in Docket No. CP87–293–000 an application pursuant to section 7(b) of the Natural Gas Act for permission and approval to abandon certain facilities located in St. Bernard Parish, Louisiana, all as more fully set forth in the application which is on file with the Commission and open to public inspection.

Tennessee proposes to abandon its Station 529 compressor facility near Alluvial City, St. Bernard Parish, Louisiana. Tennessee explains that the compressor station was originally constructed pursuant to Commission authorization issued in Docket No. CP68–248 and expanded pursuant to Commission authorization issued in Docket No. CP73–115.

Tennessee states that the Station 529 compressor facility consists of two 10,000 horsepower compressors installed to increase the capacity of its Delta-Portland line to enable Tennessee to serve increased loads of its existing customers with additional deliverability that would be available to Tennessee from Southeast Louisiana. It is stated that declining deliverabilities in the Southeast have resulted in Tennessee's having no further need to operate this compressor facility.

Tennessee states that Section 529 would be abandoned by disassembly, removal and salvage of usable components by return to inventory or sale. Tennessee estimates the cost of removal of such facility to be $643,000 with a salvage and scrap value of $269,500.

Comment date: May 21, 1987, in accordance with Standard Paragraph F at the end of this notice.

10. Texas Gas Transmission Corp.

[Docket No. CP87–294–000]

Take notice that on April 17, 1987, Texas Gas Transmission Corporation (Texas Gas), P.O. Box 1160, Owensboro, Kentucky 42302, filed in Docket No. CP87–297–000 an application pursuant to section 7(c) of the Natural Gas Act for a certificate of public convenience and necessity authorizing: (1) An increase in contract demand for an existing customer, The Cincinnati Gas & Electric Company (CG&E); (2) the initiation of firm sales service to Union Light, Heat and Power Company (Union Light); (3) a decrease in the contract demand of an existing customer, Consolidated Gas Transmission Corporation (Con Gas); and (4) the addition of two new points of delivery for sales service to Con Gas, all as more fully set forth in the application which is on file with the Commission and open to public inspection.

Texas Gas proposes to increase the contract demand of CG&E from 50,885 MMBtu of natural gas per day to 81,885 MMBtu of natural gas per day; to initiate a new sales service to Union Light, an affiliate of CG&E, with a sales contract demand of 19,000 MMBtu of natural gas per day; to add two sales delivery points to the service agreement between Texas Gas and Con Gas, at existing interconnections between Texas Gas and CG&E known as the Butler and Fernald sales meter stations; and to decrease the sales contract demand of Con Gas from 311,427 MMBtu of natural gas per day to 261,427 MMBtu of natural gas per day.

Texas Gas states the proposed changes in service to CG&E and Con Gas and new service for Union Light are a result of an agreement reached among Texas Gas, Con Gas, CG&E and Union Light whereby it was agreed that Con Gas would request a reduction in its firm sales contract demand with Texas Gas of 50,000 MMBtu of natural gas per day in order to permit Texas Gas to increase CG&E's firm sales contract demand and initiate sales service to Union Light by the same amount.

Texas Gas states that it would continue to serve Con Gas under the CDL–4 Rate Schedule, while CG&E and Union Light would be served under the G–4 Rate Schedule. The rates to be charged under the specified rate schedules would be those in effect at the time the new service commences, it is stated. Texas Gas further states that Con Gas would execute new service agreements with Texas Gas upon the granting of the authorizations sought in the subject application.

Comment date: May 21, 1987, in accordance with Standard Paragraph F 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.

Kenneth F. Plumb,

Secretary.

[FR Doc. 87-10269 Filed 5-5-87; 8:45 am]

BILLING CODE 6717-01-M

[Docket No. TA87-10-20-000, 001]

Algonquin Gas Transmission Co.; Proposed Changes in FERC Gas Tariff

May 1, 1987

Take notice that Algonquin Gas Transmission Company ("Algonquin") on April 27, 1987 tendered for filing Fourteenth Revised Sheet No. 204 to its FERC Gas Tariff, Second Revised Volume No. 1.

Algonquin states that the such tariff sheet is being filed pursuant to the provisions of Section 7 of its Rate Schedule F-3 to track a change in Transcontinental Gas Pipe Line Corporation's ("Transco") rate for the underlying transportation service as set forth in Transco's compliance filing of April 1, 1987.

Algonquin proposes the effective date of the above-mentioned tariff sheet to be April 1, 1987.

Algonquin notes that a copy of this filing is being served upon each affected party and interested State Commission.

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 Rules 211 and 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 May 11, 1987. 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.

Kenneth F. Plumb,

Secretary.

[FR Doc. 87-10287 Filed 5-5-87; 8:45 am]

BILLING CODE 6717-01-M

[Docket No. CP84-654-024]

Algonquin Gas Transmission Co.; Proposed Changes in FERC Gas Tariff

May 1, 1987.

Take notice that Algonquin Gas Transmission Company ("Algonquin") on April 27, 1987 tendered for filing to its FERC Gas Tariff, Second Revised Volume No. 1 the following tariff sheets:

Second Revised Substitute Ninth Revised Sheet No. 205
Second Revised Tenth Revised Sheet No. 205
Second Revised Eleventh Revised Sheet No. 205

Algonquin states that the such tariff sheets are being filed pursuant to the provisions of Section 7 of its Rate Schedule F-4 to reflect in its rates, an adjustment in the Contract Adjustment Demand rate to be charged by its pipeline supplier, Texas Eastern Transmission Corporation ("Texas Eastern") as set forth in Texas Eastern's April 16, 1987 filling of Second Substitute Eighty-Second Revised Sheet No. 14D.

Algonquin proposes the effective dates of the above-mentioned tariff sheets to be December 4, 1986, January 1, 1987 and February 1, 1987, respectively.

Algonquin notes that a copy of this filing is being served upon each affected party and interested State Commission.

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 Rules 211 and 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 May 11, 1987. 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 intrvene. Copies of this filing are on file with the Commission and are available for public inspection.

Kenneth F. Plumb,

Secretary.

[FR Doc. 87-10288 Filed 5-5-87; 8:45 am]

BILLING CODE 6717-01-M

[Docket No. CI87-466-000, et al.]

Amoco Production Co., et al.; Applications for Certificates, Abandonments of Service and Petitions to Amend Certificates [1]

April 30, 1987.

Take notice that each of the Applicants listed herein has filed an application or petition pursuant to section 7 of the Natural Gas Act for authorization to sell natural gas in interstate commerce or to abandon service as described herein, all as more fully described in the respective applications and amendments which are on file with the Commission and open to public inspection.

Any person desiring to be heard or to make any protest with reference to said applications should on or before May 15, 1987, file with the Federal Energy Regulatory Commission, Washington, DC 20426, petitions to intervene or protests 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. Persons wishing to become parties to a proceeding or to participate as a party in any hearing therein must file petitions to intervene in accordance with the Commission's Rules.

Under the procedure herein provided for, unless otherwise advised, it will be unnecessary for Applicants to appear or to be represented at the hearing.

Kenneth F. Plumb,

Secretary.

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[1] This notice does not provide for consolidation for hearing of the several matters covered herein.

Docket No. and date filed	Applicant	Purchaser and location	Price per Mcf	Pressure base
CI87-466-000, B, May 8, 1987.	Amoco Production Company, P.O. Box 50879, New Orleans, LA. 70150.	ANR Pipeline Company, High Island Block A-310 Field, Offshore Texas.	(1)	
CI60-476-000, D, May 10, 1987.	Amoco Production Company, P.O. Box 3092, Houston, Texas 77253.	Transwestern Pipeline Company, Crawar Field, Crane County, Texas.	(2)	
CI87-479-000, (CI71-421), B, May 10, 1987.	Amoco Production Company, P.O. Box 50879, New Orleans, La. 70150.	Gas Gathering Corporation, Section 28 Dome Field, St. Martin, Parish, Louisiana.	(3)	
CI87-478-000, (CI67-316), B, May 10, 1987.	Exxon Corporation, P.O. Box 2180, Houston, Texas 77252-2180.	Natural Gas Pipeline Company of America, Nine Mile Point Field, Aransas County, Texas.	(4)	
CI87-490-000, (CI67-659), B, May 13, 1987.	....do	United Gas Piple Line Company, Neches Field, Cherokee County, Texas.	(5)	
G-10480-000, D, Feb. 10, 1987.	Sun Exploration & Production Co., P.O. Box 2880, Dallas, Texas 75221-2880.	Tennessee Gas Pipeline Company, Crowley Field, Acadia Parish, Louisiana.	(6)	
CI87-516-000, (CI61-1429-008), B, May 20, 1987.	....do	El Paso Natural Gas Company, Jalmat Field, Lea County, New Mexico.	(7)	
G-10143-006, D, May 20, 1987.	ARCO Oil and Gas Company, Division of Atlantic Richfield Company, P.O. Box 2819, Dallas, Texas 75221.	Tennessee Gas Pipeline Company, West Delta Block 52, Offshore Louisiana.	(8)	
CI63-1104-000, D, May 7, 1987.	....do	Transcontinental Gas Pipe Line Corp., Dilworth Dome Field, McMullen County, Texas.	(9)	
CI87-487-000,(G-3894), B, May 13, 1987.	....do	United Gas Piple Line Company, Pettus Unit, Cabeza Creek Field, Goliad County, Texas.	(10)	
CI87-491-000, (G-14582), B, May 13, 1987.	....do	Texas Eastern Transmission Corporation, De Late Charco Field, Brooks County, Texas.	(10)	
CI87-492-000, (G-10970), B, May 13, 1987.	....do	Texas Eastern Transmission Corporation, Cabeza Creek Field, Goliad County, Texas.	(10)	
G-14830-000, D, May 9, 1987.	Champlin Petroleum Company, Four Allen Center—1400 Smith St., Suite 1500, Houston, Texas 77002.	Natural Gas Pipeline Company of America, Boonesville Field, Wise County, Texas.	(11)	
CI87-477-000, (CI62-1389), B, Apr. 9, 1987.	Champlin Petroleum Company	Mesa Operating Limited Partnership and Ringwood Gathering Company, Ringwood Field, Major County, Oklahoma.	(12)	
CI87-521-000, (CI61-746), B, Apr. 20, 1987.	....do	Natural Gas Pipeline Company of America, Woodward Field, Woodward County, Oklahoma.	(13)	
CI87-495-000, B, Apr. 13, 1987.	Hillin Production Company, P.O. Box 152, Odessa, Texas 79760.	El Paso Natural Gas Company, Winchester Field, Eddy County, New Mexico.	(14)	
CI87-496-000, B, Apr. 13, 1987.	....do	....do	(14)	
CI83-220-000, B, Apr. 20, 1987.	Texaco Producing Inc., P.O. Box 52332, Houston, Texas 7705.	Texas Eastern Transmission Corporation, High Island Area; (E/2 of Block 110, W/2 of Block 111, and N/2 of Block 138), Offshore Texas.	(15)	
CI87-517-000, (CI66-794), B, Apr. 20, 1987.	Texaco Inc., P.O. Box 52332, Houston, Texas 77052.	Transwestern Pipeline Company, Mendota-Cree Flowers Field, Roberts County, Texas.	(16)	
CI87-482-000, (CI69-711), B, Apr. 10, 1987.	J.M. Huber Corporation, 2000 West Loop South, Houston, Texas 77027.	Natural Gas Pipeline Company of America Zaerr No. 1 Well Section 36: NW/4 NW/4, T-24-N, R-19-W NW Quinlan Area, Woodward County, Oklahoma.	(17)	
CI87-483-000, (CI62-552), B, Apr. 10, 1987.	....do	Panhandle Eastern Pipe Line Company, Tucker D No. 1 Well Section 34: NW/4 SE/4 T-6-N, R-11-E NW Carthage Area, Texas County, Oklahoma.	(18)	
CI87-484-000, (CI73-170), B, Apr. 10, 1987.	Union Texas Petroleum Corporation, P.O. Box 2120, Houston, Texas 77252-2120.	Columbia Gas Transmission Corporation, West Cameron Block 146 Field, Offshore Louisiana.	(19)	

Docket No. and date filed	Applicant	Purchaser and location	Price per Mcf	Pressure base
CI87-485-000, (CI76-448), B, Apr. 10, 1987.	.....do.....	Northern Natural Gas Company, Division of Enron Corp., West Cameron Block 480 Field, Offshore Louisana.	(19).....	.....
G-6195-001, D, Apr. 20, 1987.	Chevorn U.S.A. Inc., P.O. Box 7309, San Francisco, CA 94120-7309.	K N Energy, Inc., Cedar Creek North Field, Logan, County, Colorado.	(20).....	.....
G-6195-002, D, Apr. 20, 1987.	.....do.....	K N Energy, Inc., Yenter and Peets W. Fileds, Logan, County, Colorado.	(20).....	.....
CI61-630-001, D, Apr. 10, 1987.	.....do.....	Texas Gas Transmission Corporation, South Thornwell Field, Jefferson Davis Parish, Louisiana.	(21).....	.....
CI87-515-000, (CI61-449), B, Apr. 20, 1987.	Chevron U.S.A. Inc.	K N Energy, Inc., Twin Mills Field, Logan County, Colorado.	(20).....	.....
CI60-215-002, F, Apr. 13, 1987.	Chevron U.S.A. Inc. (Succ. in Interest to Scott W. Myers, Jr.).	Trunkline Gas Company, South Mermentau Field, Acadia Parish, Louisiana.	(22).....	.....
CI67-1831-000, D, Apr. 20, 1987.	Kerr-McGee Corporation, P.O. Box 25861, Okalahoma City, Okla. 73125.	Texas Gas Transmission Corporation, C.R. Heard #1 and #1D Well, Lincoln, Parish, Louisiana.	(23).....	.....
CI86-546-001, D, Apr. 20, 1987.	.....do.....	Consolidated Gas Supply Corporation, Clearfield County, PA.	(24).....	.....
CI87-523-000, B, Apr. 20, 1987.	Interstate Drilling, Inc.....	Consolidated Gas Transmission Corporation, Vandalia Field, Lewis County, West Virginia.	(25).....	.....
CI87-524-000, B, Apr. 20, 1987.	.....do.....	.....do.....	(25).....	.....
CI87-488-000, B, Apr. 13, 1987.	Falcon Seaboard Inc., LTV Center-Suite 1400, 2001 Ross Avenue, Dallas, Texas 75201-2916.	Transwestern Pipeline Company, Purdum Unit, Lipscomb County, Texas.	(26).....	.....
CI87-522-000, B, Apr. 20, 1987.	ConVest Energy Corporation, 2401 Fountain View Drive-Suite 700, Houston, Texas 77057.	El Paso Natural Gas Company, Jalmat (Tansill, Yates, Seven Rivers, Quen) Field, Lea County, New Mexico.	(27).....	.....
CI87-463-000, B, Apr. 8, 1987.	Michel T. Halbouty, 5100 Westheimer—Suite 500, Houston, Texas 77056.	United Gas Pipe Line Company, Fostoria Wilcox Field, Liberty and Montgomery Counties, Texas.	(28).....	.....
CI86-701-001, B, Apr. 16, 1987.	Franks Petroleum Inc., et al., P.O. Box 7665, Shreveport, La. 71137-7665.	United Gas Pipe Line Company, West Bryceland Field, Bienville Parish, Louisiana.	(29).....	.....
CI87-352-000, B, Mar. 9, 1987.	Expando Production Company, P.O. Drawer 8246, Wichita Falls, Texas 76307.	United Gas Pipe Line Company, Mission River *et al* Fields, Refugio County, Texas.	(30).....	.....
CI87-441-000, B, Apr. 7, 1987.	.....do.....	United Gas Pipe Line Company, South Elton Field, Jefferson Davis Parish, Louisiana.	(33).....	.....
CI87-431-000, B, Apr. 7, 1987.	Will McCasland, Inc., P.O. Box 156, Eunice, New Mexico 88231.	El Paso Natural Gas Company, Jalmat Field, Lea County, New Mexico.	(31).....	.....
CI87-432-000, B, Apr. 7, 1987.	.....do.....	.....do.....	(32).....	.....
CI87-339-000, B, Feb. 27, 1987.	Messman-Rinchart Corporation, 500 Bitting Building, Witchita, Kansas 67202.	Panhandle Eastern Pipe Line Company, Larado Pool, Reno County, Kansas.	(35).....	.....
CI87-529-000, B, Apr. 5, 1987.	M.D. Abel Co., P.O. Box 1391, Midland, Texas 79701.	United Gas Pipe Line Company, South Albrecht Field, Goliad County, Texas.	(34).....	.....
CI63-1567-000, D, Apr. 17, 1987.	Sohio Petroleum Company, P.O. Box 4587, Houston, Texas 77210.	Panhandle Eastern Pipe Line Company, N.W. Midwell Field, Cimarron County, Oklahoma.	(36).....	.....
CI68-966-002, D, Apr. 17, 1987.	Sun Exploration and Production Co.....	Panhandle Eastern Pipeline Company, Dover Hennessey Field, Kingfisher County, Oklahoma.	(37).....	.....
C-16134-001, D, Apr. 17, 1987.	.....do.....	Natural Gas Pipeline Company of America, Camerick Field, Texas County, Oklahoma.	(38).....	.....

[1] Applicant is filing under Gas Purchase Contract dated 2-25-87.
[2] Effective 4-1-86, Amoco sold its interest in the J.B. Tubb "B" Lease to RAYDEN.
[3] Purchaser has abandoned agreement.
[4] The primary term of the 8-15-66 contract expired 3-1-87. NGPL waives any and all options to any further purchase of gas which is committed to NGPL under the contract. Exxon release NGPL from any take-or-pay obligation under the contract, and NGPL supports Exxon's application for permanent abandonment.
[5] The primary term of the 11-3-66 contract expired 12-22-86. United has agreed to support Exxon's application for permanent abandonment. Exxon will release United from any take-or-pay obligation under the contract, as indicated in the 4-3-87 letter agreement.
[6] Assigned part interest in Leases Nos. 59215, 59375, 62306 and 62307 to Vernon E. Faulconer.
[7] Sun assigned its interest in Property No. 639814, Selby to Doyle Hartman.

[8] Partial Release in State Lease No. 977 dated 8-1-86.
[9] ARCO no longer has an interest in 160 acres out of lease SOC-6002-001 surrounding the George Sealy Estate Well No. 1, assigned to Petrus Oil Company effective 5-1-86.
[10] ARCO no longer holds an interest in acreage to be abandoned. Acreage sold to Petrus Oil Company effective 5-1-86.
[11] Champlin has assigned all of its rights, title and interest in a portion of the dedicated acreage to Mitchel Energy Corporation.
[12] Champlin has assigned all of its rights, title and interest in the dedicated acreage to South Timbers Limited Partnership.
[13] Cessation of production.
[14] To allow seller the opportunity to sell to alternate markets at such times when Purchaser cannot purchase Seller's gas for its system supply under its least-cost purchase policy.
[15] Federal Lease OCS-G-2690 (North Half of High Island Block 138) terminated 10-9-85.
[16] Contract expired 9-6-86. There is no longer any gas production under the 2-18-66 agreement. Gas is not available at pressure sufficient to enter Buyer's line (Article V of 2-18-66 agreement).
[17] Downhole casing failure and production (50 Mcf/d) was not sufficient to justify workover. Kimball Production Co., as operator, plugged and abandoned this well 10-28-86.
[18] Downhole casing failure and production (40 Mcf/d) was not sufficient to justify workover. Petroleum Inc., as operator, plugged and abandoned this well in January 1985.
[19] Effective 10-1-86, Union Texas Petroluem Corporation assigned its interest in certain leases to Elf Aquitaine, Inc.
[20] Acreage has been assigned to Skaer Enterprises, Inc.
[21] Acreage has been assigned to Vernon E. Faulconer and Amy H. Faulconer.
[22] Scott W. Myers, Jr. assigned certain acreage to Chevron U.S.A. Inc., effective 7-30-62.
[23] The subject well watered out and was plugged and abandoned on 6-28-85.
[24] Release of undeveloped acreage of approximately 110 acres.
[25] Uneconomical.
[26] Purdum Unit well was plugged and abandoned in December, 1975.
[27] Purchaser (El Paso Natural Gas Company) will not buy the gas.
[28] Sohio Acquired the deeper rights (11,000' and below) in the Leggett Gas Unit from Michel T. Halbouty effective 8-22-85.
[29] By letter dated 4-1-87, United has advised Applicant that United Contract No. 4683 will expire by its own terms on 5-17-87, and that on the expiration of the contract United will immediately cease purchasing the gas.
[30] The application was noticed on March 19, 1987. However, the notice did not include Applicant's additional request received April 17, 1987, to grant Applicant a three year limited-term abandonment with pregranted abandonment under its small producer certificate.
[31] Applicant requests pregranted abandonment authorization for a three-year limited term under its small producer certificate issued in Docket No. CS85-78-000.

In support of its application Applicant states sales volumes have been reduced and the Little Woolworth No. 3 well and Little Woolworth No. 4 well are shut in due to lack of market demand. The wells produce NGPA section 108 gas. The estimated deliverability for Woolworth No. 3 is 40 Mcf/d and Woolworth No. 4 is 3 Mcf/d.

[32] Applicant requests pregranted abandonment authorization for a three-year limited term under its small producer certificate issued in Docket No. CS85-78-000.

In support of its application Applicant states sales volumes have been reduced and the A.L. Christmas No. 3 well is shut in due to lack of market demand. The well produces NGPA section 104 gas. The estimated deliverability is 48 Mcf/d.

[33] No gas has been purchased from lease since about 1970 and contract has expired.
[34] Buyer has terminated the contract effective July 1, 1987. United does not want the gas and is willing to release it. Applicant proposes to sell gas in the spot market and requests pregranted abandonment for either three-years or permanently.
[35] Well has been produced since 1966 and under compression since 1968. Gas has been depleted.
[36] Sohio sold 319.70 net acres in the W/2 of Section 3-3N-9ECM and 12.4898% working interest in the Paul Hanke Unit to Crouch Petrolum.
[37] Sun assigned its interest in Property No. 869885, Perdue #1-17 to Brown and Borelli, Inc.
[38] Sun sold its interest in Property No. 815675, Camerick Unit Phase 2 to Continental West Resources.

Filing Code: A—Initial Service B—Abandonment C—Amendment to add acreage D—Amendment to delete acreage E—Total Succession F—Partial Succession.

[FR Doc. 87-10278 Filed 5-5-87; 8:45 am]
BILLING CODE 6717-01-M

[Docket Nos. ER85-720-001, et al.]

Connecticut Light and Power Co.; Filing

April 24, 1987.

Take notice that on March 19, 1987, Connecticut Light and Power Company filed an amendment to the offer of settlement filed on July 17, 1986, as amended, with respect to Bozrah Light and Power Company (Bozrah). The filing company states that it is making the filing in order to modify and complete its Offer of Settlement concerning service to Bozrah. The filing company states that it has sent copies of the filing to all parties to the proceeding.

Any person desiring to comment on this filing should file comments with the Federal Energy Regulatory Commission, 825 North Capitol Street, NE., Washington, DC 20426. All such comments should be filed on or before May 14, 1987. Any reply comments should be filed on or before May 26, 1987. Comments will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make commenters 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,

Acting Secretary.

[FR Doc. 87-10271 Filed 5-5-87; 8:45 am]
BILLING CODE 6717-01-M

[Docket No. QF87-369-000]

E.I. duPont deNemours and Co.; Application for Commission Certification of Qualifying Status of a Cogeneration Facility

April 30, 1987.

On April 10, 1987, E.I. duPont deNemours and Company (Applicant), of 1007 Market Street, Wilmington, Delaware 19898, submitted for filing an application for certification of a facility as a qualifying cogeneration facility pursuant to § 292.207 of the Commission's regulations. No determination has been made that the submittal constitutes a complete filing.

The topping-cycle cogeneration facility will be located at the Pontchartrain Works Plant, in LaPlace, Louisiana. The facility will consist of a combustion turbine generator and a heat recovery steam generator, equipped with supplementary firing. Thermal energy recovered will be used for process heating in the Pontchartrain Works Plant. The primary energy source of the facility will be natural gas. The maximum electric power production capacity of the facility will be 15 MW. Installation will begin in the first quarter of 1988.

Any person desiring to be heard or

objecting to the granting of qualifying status should file a petition to intervene or protest with the Federal Energy Regulatory Commission, 825 North Capitol Street, NE., Washington, DC 20426, in accordance with rules 211 and 214 of the Commission's Rules of Practice and Procedure. All such petitions or protests must be filed within 30 days after the date of publication of this notice and must be served on the applicant. 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 petition to intervene. Copies of this filing are on file with the Commission and are available for public inspection.

Kenneth F. Plumb,

Secretary.

[FR Doc. 87-10285 Filed 5-5-87; 8:45 am]

BILLING CODE 6717-01-M

[Docket No. GP87-41-000]

Exxon Corp.; Petition To Reopen and Vacate Final Well Category Determination and Withdraw Application for Determination

May 1, 1987.

On March 30, 1987, Exxon Corporation (Exxon) filed with the Federal Energy Regulatory Commission, pursuant to § 275.205 of the Commission's regulations, a petition to reopen and vacate final well category determinations made for the State-Hunton "B" No. 2 well, located in the Sooner Trend (Hunton) Field, Kingfisher County, Oklahoma. Exxon requests that the Commission grant its petition to reopen the well category determination proceedings as to the above mentioned well, vacate its designation as an NGPA section 108 stripper well, and permit Exxon to withdraw the underlying application.

On October 23, 1985, Exxon filed an application for a section 108 category determination on the subject well with the Oklahoma Corporation Commission ("OCC"). An affirmative determination was made by the OCC. A copy of this determination was filed with the Commission on April 7, 1986 and became final on May 22, 1986.

Exxon states that the State-Hunton "B" No. 2 well was thought to have produced 4 Mcf in 92 production days, for an average production of 0.045 Mcf per production day. Exxon further states that a review of the production records, indicates that the well actually produced 14,663 Mcf in 92 production days for an average production of 159 Mcf per production day.

Exxon states that since the average production per production day exceeds 60 Mcf, the State-Hunton "B" No. 2 well does not qualify for NGPA section 108.

Exxon further states that no refund is due Oklahoma Natural Gas Company, the gas purchaser, because collections were based on a price which was less than the otherwise applicable maximum lawful price.

Any person desiring to be heard or to make any protest to Exxon's petition, should file, within 30 days after this notice is published in the **Federal Register**, a motion to intervene or a protest under rules 214 or 211 of the Commission's Rules of Practice and Procedure. Filings should be made with the Federal Regulatory Commission, 825 North Capitol Street, NE, Washington, DC 20426. All protests filed will be considered but will not make the protestants parties to the proceedings. Any person wishing to become a party must file a motion to intervene.

Kenneth F. Plumb,

Secretary.

[FR Doc. 87-10283 Filed 5-5-87; 8:45 am]

BILLING CODE 6717-01-M

[Docket No. QF87-45-001]

Finch, Pruyn & Co., Inc.; Application for Commission Recertification of Qualifying Status of a Cogeneration Facility

April 23, 1987.

On March 24, 1987, Finch, Pruyn & Company, Inc. (Applicant), of One Glen Street, Glens Falls, New York 12801 submitted for filing an application for recertification of a facility as a qualifying cogeneration facility pursuant to § 292.207 of the Commission's regulations. No determination has been made that the submittal constitutes a complete filing.

Under the instant application, recertification is sought to allow for natural gas to be substituted for fuel oil as a constituent of the primary energy source for the facility and to include mechanical energy produced by four back-pressure turbines as part of the facility's useful power output. In addition, the maximum net electric power production capacity has decreased from previously certified 15 MW to 13.32 MW. All other facility characteristics remain essentially unchanged.

Any person desiring to be heard or objecting to the granting of qualifying status should file a petition to intervene or protest with the Federal Energy Regulatory Commission, 825 North Capitol Street, NE., Washington, DC 20426, in accordance with rules 211 and 214 of the Commission's Rules of Practice and Procedure. All such petitions or protests must be filed within 30 days after the date of publication of this notice and must be served on the applicant. 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 petition to intervene. Copies of this filing are on file with the Commission and are available for public inspection.

Lois D. Cashell,

Acting Secretary.

[FR Doc. 87-10286 Filed 5-5-87; 8:45 am]

BILLING CODE 6717-01-M

[Docket No. ER85-538-003]

Gulf States Utilities Co.; Filing

April 30, 1987.

Take notice that on February 25, 1987, Gulf States Utilities Company (GSU) tendered for filing executed service schedules, required under Article III (D) of the settlement agreement previously filed in this docket, in compliance with Commission's letter order dated January 27, 1987.

Any person desiring to be heard or to protest this 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 Rule 211 or 214 of the Commission's rules of practice and procuredure (18 CFR 385.211, 385.214). All such motions or protests should be filed on or before May 7, 1987. 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 motion are on file with the commission and are available for public inspection.

Kenneth F. Plumb,

Secretary

[FR Doc. 87-10272 Filed 5-5-87; 8:45 am]

BILLING CODE 6717-01-M

[Docket No. RP87-60-000]

K N Energy, Inc.; Tariff Filing

April 30, 1987.

Take notice that on April 23, 1987, K N Energy, Inc. (K N) tendered for filing the following tariff sheets to its FERC Gas Tariff, Third Revised Volume No. 1 to become effective June 1, 1987:

Second Revised Sheet No. 1
First Revised Sheet No. 2
Second Revised Sheet No. 5
Fourth Revised Sheet No. 27B

As explained in its filing, K N has tendered this filing in order to update and clarify its FERC Gas Tariff. K N states that the present filing will not materially affect any K N sales, transportation, or exchange, or revenues there from, and therefore, the comparative statement required under § 154.63(b)(2) is omitted.

K N has sent copies of this filing to its purchasers and affected 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. All such motions or protests should be filed on or before May 7, 1987. 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.

Kenneth F. Plumb,

Secretary.

[FR Doc. 87-10273 Filed 5-5-87; 8:45 am]

BILLING CODE 6717-01-M

[Docket No. CP87-305-000]

Northern Natural Gas Co., Division of Enron Corp.; Application

April 29, 1987

Take notice that on April 23, 1987, Northern Natural Gas Company, division of Enron Corp. (Northern), 2223 Dodge Street, Omaha, Nebraska 68102, filed in Docket No. CP87-305-000, an application pursuant to section 7(c) of the Natural Gas Act for (1) a blanket certificate, with pre-granted abandonment, for authorization to make sales in interstate commerce for resale of existing natural gas supplies, which are surplus to the current and projected needs of Northern's existing on-system customers, to off-system purchasers, including interstate and Hinshaw pipelines and local distribution companies (LDC's), on an interruptible basis, in accordance with the provision of Northern's existing Rate Schedule OS-1 as modified in accordance with Northern's application, and (2) blanket authorization to utilize Northern's transmission facilities to effectuate interruptible direct sales to off-system end-users, all as more fully set forth in the application which is on file with the Commission and open to public inspection.

Northern requests such authorization for a limited-term effective May 1, 1987, and extending through September 30, 1987 (summer period).

Northern states that it proposes to modify its currently effective Rate Schedule OS-1, for the term coinciding with the certificate authorization requested, to make Rate Schedule OS-1 available not only to interstate pipelines acquiring gas for system supply, but also to Hinshaw pipelines and LDC's. Northern states that it would charge a rate for service under Rate Schedule OS-1 for this limited summer period within a range of rates between a minimum and maximum. It is further stated that the maximum rate would be equal to the higher of Northern's system average load factor rate, based on its currently effective sales rates, or Northern's average NGPA section 102 gas acquisition costs, based on Northern's currently effective purchased gas adjustment (PGA) filing. It is explained that the minimum rate would equal Northern's weighted average cost of current period production reflected in its base cost of purchased gas, fuel and variable costs of delivering the gas, plus GRI if applicable. The actual rate charged would be a negotiated rate, within the above-described range, and would be set forth in the sales agreement between Northern and the OS-1 purchaser.

Northern states that off-system sales under the modified Rate Schedule OS-1 would be made through Northern's existing facilities. Northern further states that any required third-party transportation would be performed on a self-implementing basis under Order No. 436 or under state regulations. Northern states that the purchaser under Rate Schedule OS-1 would be responsible for all costs of third-party transportation.

Northern states that it would file a report with the Commission within forty-eight hours following the commencement of a sale pursuant to Rate Schedule OS-1 identifying the purchaser, the sales rate and the term of the contract. Within ninety days following the termination of the sale, Northern would file a report with the Commission setting forth the actual volumes sold during the contract period.

Any person desiring to be heard or to make any protest with reference to said application should on or before May 20, 1987, file with the Federal Energy Regulatory Commission, 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 385.214 or 385.211) 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 application 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 Northern to appear or be represented at the hearing.

Kenneth F. Plumb,

Secretary.

[FR Doc. 87-10274 Filed 5-5-87; 8:45 am]

BILLING CODE 6717-01-M

[Docket No. GP86-40-000]

Railroad Commission of Texas Section 108 NGPA Determination David Pilot Gas Unit No. 1 Well FERC J.D. No. 82-27133; Petition To Reopen and Vacate Final Well Category Determination

Issued: May 1, 1987.

On June 4, 1986, The Railroad Commission of Texas (RCT) filed with the Commission pursuant to § 275.205 of

the Commission's Regulations,[1] a petition to reopen and vacate a final well category determination under the Natural Gas Policy Act (NGPA) for the David Pilot Gas Unit No. 1 well. The RCT requests that the Commission reopen the well category determination proceeding for the David Pilot Gas Unit No. 1 well and vacate the NGPA section 108 final determination.

On October 10–12, 1984, the RCT called a hearing concerning the complaint of Mississippi River Transmission Corporation (MRT)[2] that the RCT's section 108 determination in its NGPA Docket No. F–06–044724 was improper. In that docket, the RCT determined that Paramount Petroleum Corporation (Paramount) could charge for its David Pilot Gas Unit No. 1 well incentive gas prices permitted for stripper wells by the NGPA. This section 108 determination became final on May 26, 1982, approximately two years prior to the filing of MRT's complaint. MRT alleged that the RCT determined that the David Pilot Gas Unit No. 1 well qualified for section 108 incentive prices because of its reliance on an application which ommitted material facts, which if known would have resulted in disqualifying the well.

On March 17, 1986, the RCT invalidated its earlier determination that the subject well qualified under NGPA section 108 and requested the Commission to reopen and vacate the determination. On April 14, 1986, the RCT denied rehearing and request for oral argument.

Any person desiring to be heard or to make any protest to the requested reopening 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 Rules 214 and 211 of the Commission's Rules of Practice and Procedure. All such motions or protests should be filed within 30 days from the issuance date of this Notice. All protests filed will be considered. but will not serve to make the protestants parties to the proceeding. Any person wishing to become a party must file a petition to intervene in accordance with the Commission's rules.

Kenneth F. Plumb,

Secretary.

[FR Doc. 87–10276 Filed 5–5–87; 8:45 am]

BILLING CODE 6717–01–M

[1] 18 CFR 275.205 (1986).

[2] Oil and Gas Docket No. 6–83,679.

[Docket No. ER87–223–000]

Southwestern Electric Power Co.; Filing

April 30, 1987.

Take notice that on April 15, 1987, Southwestern Electric Power Company (SWEPCO) tendered for filing a Request for Rehearing of the Commission's Suspension Order issued March 16, 1987.

SWEPCO also submits for filing a revised Power Supply Agreement between SWEPCO and Rayburn County Electric Cooperative, Inc.

SWEPCO states that the revised Power Supply Agreement deletes the contract provision agreed to by the parties with respect to the future use of an automatically adjusting return on common equity in the event the Commission should change its current policy against such return provisions in formulary rates.

Any person desiring to be heard or to protest this application 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 Rule 211 or 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 May 8, 1987. 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 motion are on file with the Commission and are available for public inspection.

Kenneth F. Plumb,

Secretary.

[FR Doc. 87–10275 Filed 5–5–87; 8:45 am]

BILLING CODE 6717–01–M

ENVIRONMENTAL PROTECTION AGENCY

[PP 5G3296/T537 (FRL–3193–9)]

E.I. Du Pont de Nemours and Co., Inc.; Extension of Temporary Tolerances

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice.

SUMMARY: EPA has extended temporary tolerances for residues of the herbicide DPX–L5300 (methyl-2-[[[[N-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)-N-methylamino]carbonyl]amino]sulfonyl]benzoate) in or on certain raw agricultural commodities.

DATE: These temporary tolerances expire July 15, 1988.

FOR FURTHER INFORMATION CONTACT: By mail: Richard Mountfort, Product Manager (PM) 23, Registration Division (TS–767C), Office of Pesticide Programs, Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460.

Office location and telephone number: Room 237, CM # 2, 1921 Jefferson Davis Highway, Arlington, VA, (703–557–1830).

SUPPLEMENTARY INFORMATION: EPA issued a notice, which was published in the **Federal Register** of March 26, 1986 (51 FR 10443), announcing the establishment of temporary tolerances for residues of the herbicide DPX–L5300 (methyl-2-[[[[N-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)-N-methylamino]carbonyl]amino]sulfonyl]benzoate) in or on the raw agricultural commodities barley, grain at 0.05 part per million (ppm); barley, straw at 0.1 ppm; wheat, grain at 0.05 ppm; and wheat, straw at 0.1 ppm. These tolerances were issued in response to pesticide petition PP 5G3296, submitted by E.I. du Pont de Nemours and Co., Inc., Agricultural Products Dept., Walker's Mill Bldg., Barley Mill Plaza, Wilmington, DE 19898.

These temporary tolerances have been extended to permit the continued marketing of the raw agricultural commodities named above when treated in accordance with the provisions of experimental use permit 352–EUP–130, which is being extended under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) as amended, (Pub. L. 95–396, 92 Stat. 819; 7 U.S.C. 136).

The scientific data reported and other relevant material were evaluated, and it was determined that the extension of these temporary tolerances will protect the public health. Therefore, the temporary tolerances have been extended on the condition that the pesticide be used in accordance with the experimental use permit and with the following provisions:

1. The total amount of the active ingredient to be used must not exceed the quantity authorized by the experimental use permit.

2. E.I. du Pont de Nemours and Co., Inc., must immediately notify the EPA of any findings from the experimental use that have a bearing on safety. The company must also keep records of production, distribution, and performance and on request make the records available to any authorized officer or employee of the EPA or the Food and Drug Administration.

These tolerances expire July 15, 1988. Residues not in excess of this amount remaining in or on the raw agricultural commodites after this expiration date

will not be considered actionable if the pesticide is legally applied during the term of, and in accordance with, the provisions of the experimental use permit and temporary tolerances. These tolerances may be revoked if the experimental use permit is revoked or if any experience with or scientific data on this pesticide indicate that such revocation is necessary to protect the public health.

The Office of Management and Budget has exempted this notice from the requirements of section 3 of Executive Order 12291.

Pursuant to the requirements of the Regulatory Flexibility Act (Pub. L. 96–354, 94 Stat. 1164, 5 U.S.C. 601 through 612), the Administrator has determined that regulations establishing new tolerances or raising tolerance levels or establishing exemptions from tolerance requirements do not have a significant economic impact on a substantial number of small entities. A certification statement to this effect was published in the **Federal Register** of May 4, 1981, (46 FR 24950).

Authority: 21 U.S.C. 346a(j).

Dated: April 22, 1987.

Edwin F. Tinsworth,

Director, Registration Division, Office of Pesticide Programs.

[FR Doc. 87–9773 Filed 5–5–87; 8:45 am]

BILLING CODE 6560–50–M

[OPP–240074; FRL–3195–2]

State Registration of Pesticides

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice.

SUMMARY: EPA has received notices of registration of pesticides to meet special local needs under section 24(c) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, from 28 States. A registration issued under this section of FIFRA shall not be effective for more than 90 days if the Administrator disapproves the registration or finds it to be invalid within that period. If the Administrator disapproves a registration or finds it to be invalid after 90 days, a notice giving that information will be published in the **Federal Register.**

DATE: The last entry for each item is the date the State registration of that product became effective.

FOR FURTHER INFORMATION CONTACT: Own F. Beeder, Registration Division (TS–767C), Office of Pesticide Programs, Environmental Protection Agency, 401 M Street SW., Washington, DC.

Office location and telephone number: Rm. 716A, CM #2, 1921 Jefferson Davis Highway, Arlington, VA, (703–557–7893).

SUPPLEMENTARY INFORMATION: This notice only lists the section 24(c) applications submitted to the Agency. The Agency has 90 days to approve or disapprove each application listed in this notice. Applications that are not approved are returned to the appropriate State for action. Most of the registrations listed below were received by the EPA in January and February of 1987. Receipts of State registrations will be published periodically. Of the following registrations, none involve a changed-use pattern (CUP). The term "changed-use pattern" is defined in 40 CFR 162.3(k) as a significant change from a use pattern approved in connection with the registration of a pesticide product. Examples of significant changes include, but are not limited to, changes from a nonfood to food use, outdoor to indoor use, ground to aerial application, terrestrial to aquatic use, and nondomestic to domestic use.

Alabama

EPA SLN No. AL 87 0001. Fermenta Animal Health Co. Registration is for Terminator Insecticide Cattle Ear Tag to be used on cattle to control horn flies. February 13, 1987.

Arizona

EPA SLN No. AZ 86 0029. Biochemico Dynamic America Corp. Registration is for Super IQ Insecticide Coating L.C. to be used on sewer manholes to control cockroaches and spiders. December 31, 1986.

EPA SLN No. AZ 87 0001. W.J. Kammann & Son. Registration is for Manzate D to be used on Chinese cabbage to control downy mildew. January 26, 1987.

EPA SLN No. AZ 87 0002. W.J. Kammann & Son. Registration is for Prokil Methyl Parathion 5 to be used on Chinese cabbage to control aphids. January 26, 1987.

EPA SLN No. AZ 87 0003. W.J. Kammann & Son. Registration is for Ciba-Geigy D–Z–N– Diazinon 50WP to be used on Chinese cabbage to control aphids. January 26, 1987.

EPA SLN No. AZ 87 0004. W.J. Kammann & Son. Registration is for Prokil Ethyl Methyl Parathion 6–3E to be used on Chinese cabbage to control aphids. January 26, 1987.

EPA SLN No. AZ 87 0005. E.I. du Pont de Nemours. Registration is for DuPont Bladex 4L Herbicide to be used on cotton as a preplant weed control. February 6, 1987.

Arkansas

EPA SLN No. AR 87 0001. Dow Chemical Co. Registration is for Lorsban 4E Insecticide to be used on cotton to control plantbugs and fleahoppers. February 20, 1987.

California

EPA SLN No. CA 86 0075. Moyer Chemical Co. Registration is for Dormant Premix to be used on dormant nut and fruit trees to control scale, mites, and insects. December 31, 1986.

EPA SLN No. CA 87 0001. California Asparagus Growers Association. Registration is for Funginex E.C. Fungicide to be on asparagus to control asparagus rust.

EPA SLN No. CA 87 0003. California Bureau of Home Furnishings. Registration is for Vinco Formaldehyde Solution to be used on bedding and furniture to control insects, lice, and bacteria. January 20, 1987.

EPA SLN No. CA 87 0004. California Assocation of Nurserymen. Registration is for Gramoxone Paraquat to be used on peach seed beds to control broadleaf weeds, grasses, and perennial weeds. January 21, 1987.

EPA SLN No. CA 87 0005. Santa Cruz County. Registration is for Ortho Paraguat Cl to be used on strawberry beds for preplant control of broadleaf weeds and grasses and perennial weeds. January 21, 1987.

EPA SLN No. CA 87 0006. University of California Extension Service. Registration is for Ridomil 2E to be used on aspargus to control *Phytophthora megasperma.* February 2, 1987.

EPA SLN No. CA 87 0010. Mobay Corp. Registration is for Morestan 25% WP to be used on cucurbits grown for seed to control powdery mildew and mites. February 23, 1987.

Florida

EPA SLN No. FL 87 0001. Rhone-Poulenc, Inc. Registration is for Mocap 15G to be used on nonbearing citrus trees to control Fuller rose beetles, citrus weevils, citrus root weevils, and West Indian sugarcane root stalk borers. January 13, 1987.

EPA SLN No. FL 87 0002. Rhone-Poulenc, Inc. Registration is for Mocap 15G to be used on nonbearing citrus trees to control Fuller rose beetles, citrus weevils, citrus root weevils, and West Indian sugarcane root stalk borers. January 13, 1987.

EPA SLN No. FL 87 0003. The Land, EPCOT Center. Registration is for Avid 0.15 E.C. Miticide/Insecticide to be used on green house plants to control spider mites and leaf miners. January 13, 1987.

Georgia

EPA SLN No. GA 87 0001. Fermenta Animal Health Co. Registration is for Terminator Cattle Ear Tag to be used on cattle to control flies. December 31, 1987.

EPA SLN No. GA 87 0002. Pennwalt Corp. Registration is for Agclor TM to be used on various fruit and vegetable crops to control organisms causing decay. February 9, 1987.

EPA SLN No. GA 87 0003. Union Carbide. Registration is for Temik 15G Aldicarb Pesticide to be used on pecans to control thrips and mites. February 12, 1987.

Hawaii

EPA SLN No. HI 87 0001. Hawaii Anthurium Industry Assoc. Registration is for Dimethoate 267 to be used on anthuriums to control thrips. February 12, 1987.

Idaho

EPA SLN No. ID 87 0001. Fermenta Animal Health Co. Registration is for Terminator Insecticide Cattle Ear Tag to be used on cattle to control hornflies. March 9, 1987.

Kansas

EPA SLN No. KA 87 0001. Sandoz Crop Protection Corp. Registration is for Banvel Herbicide to be used on field corn and sorghum to control hemp dogbane. February 21, 1987.

Michigan

EPA SLN No. MI 86 0005. Union Carbide. Registration is for Larvin 3.2 Thiodicarb to be used on sweet corn (fresh market only) to control armworms, corn earworms, and European corn borers.

Mississippi

EPA SLN No. MS 87 0001. Fermenta Animal Health Co. Registration is for Terminator Insecticide Cattle Ear Tag to be used on cattle to control horn flies. February 26, 1987.

EPA SLN No. MS 87 0001. Uniroyal Chemical Co. Registration is for Dimilin 25W to be used on pine trees to control Nantucket pine tipmoths. March 13, 1987.

Missouri

EPA SLN No. MO 87 0001. Fermenta Animal Health Co. Registration is for Terminator Cattle Ear Tag to be used on cattle to control flies. January 20, 1987.

EPA SLN No. MO 87 0002. Monsanto Agricultural Co. Registration is for Lasso Micro-Tech Herbicide to be used on soybeans to control weeds. March 6, 1987.

Montana

EPA SLN No. MT 87 0001. Y-Tex Corp. Registration is for Max-Con Insecticide Ear Tag to be used on cattle to control various flies and lice. February 17, 1987.

New Mexico

EPA SLN No. NM 87 0001. Chevron Chemical Co. Registration is for Orthene 75S Soluble Powder to be used on cotton as seed treatment. February 9, 1987.

EPA SLN No. NM 87 0002. Y-Tex Corp. Registration is for Max-Con Insecticide Ear Tag to be used on cattle to control flies. February 9, 1987.

EPA SLN No. NM 87 0003. Dow Chemical. Registration is for Tordon 22K Weed Killer to be used on grainlands to control broadleaf weeds between crops. February 9, 1987.

EPA SLN No. NM 87 0004. E.I. du Pont de Nemours. Registration is for Du Pont Ally Herbicide to be used on grasslands to control broadleaf weeds. February 9, 1987.

North Carolina

EPA SLN No. NC 87 0001. Pennwalt Corp. Registration is for Agclor TM to be used on produce to control organisms causing decay of various fruits and vegetables. February 25, 1987.

North Dakota

EPA SLN No. ND 87 0006. Gustafson, Inc. Registration is for Gustafson Apron FL to be used on chick peas as seed treatment for control of phytophthora. February 4, 1987.

EPA SLN No. ND 87 0007. Gustafson, Inc. Registration is for Gustafson Captan 400D to be used on chick peas as seed treatment for control of mold and other fungi. February 4, 1987.

EPA SLN No. ND 87 0008. Gustafson, Inc. Registration is for Abscind Disinfectant to be used on potatoes and potato seeds during storage for control of soft rot and other bacterial and fungal diseases. March 5, 1987.

EPA SLN No. ND 87 0009. Sandoz Crop Protection Corp. Registration is for Banvel Herbicide to be used on small grains for weed control. March 9, 1987.

New Jersey

EPA SLN No. NJ 87 0001. Mobay Corp. Registration is for Furadan 4F to be used on seeded alfalfa to control alfalfa blotch leafminer, potato leafhopper, clover root curculio, and nematodes. January 6, 1987.

EPA SLN No. NJ 87 0002. FMC Corp. Registration is for Talstar 10 WP Insecticide/Miticide to be used on ornamental trees, shrubs, etc. to control specified pests. February 3, 1987.

Ohio

EPA SLN No. OH 87 0001. Uniroyal Chemical Co. Registration is for Omite 6E to be used on various fruits and vegetable crops to control motile mites. March 13, 1987.

Oklahoma

EPA SLN No. OK 87 0001. Fermenta Animal Health Co. Registration is for Terminator cattle ear tag to be used on cattle to control flies. January 16, 1987.

Pennsylvania

EPA SLN No. PA 87 0001. Micro-Flo Co. Registration is for Zineb 75 WP to be used on mushrooms to control brown spot, soft decay, mycogone, and green mold. March 13, 1987.

Puerto Rico

EPA SLN No. PR 87 0001. Union Carbide. Registration is for Temik 10 G Aldicarb Pesticide to be used on coffee beans to control leafminers and nematodes. February 4, 1987.

EPA SLN No. PR 87 0002. Union Carbide. Registration is for Temik 15 G Aldicarb Pesticide to be used on coffee beans to control leafminers and nematodes. February 4, 1987.

South Carolina

EPA SLN No. SC 87 0001. Fementa Animal Health. Registration is for Terminator Insecticide Cattle Ear Tag to be used on cattle to control hornflies. January 13, 1987.

EPA SLN No. SC 87 0002. FMC Corp. Registration is for Talstar 10 WP to be used on ornamental trees and shrubs, etc., to control various insects. February 10, 1987.

Tennessee

EPA SLN No. TN 87 0001. FMC Corp. Registration is for Talstar 10 WP to be used on ornamental trees, etc., to control various insects. January 27, 1987.

EPA SLN No. TN 87 0002. Micro-Flo Co. Registration is for Zineb 75 WP to be used on mushrooms to control mildew and mold. March 5, 1987.

Texas

EPA SLN No. TX 87 0001. Fermenta Animal Health Co. Registration is for Terminator Insecticide Cattle Ear Tag to be used on cattle to control horn flies. February 20, 1987.

EPA SLN No. TX 87 0002. E.I. du Pont de Nemours & Co. Registration is for Du Pont Ally Herbicide to be used on grass to control broadleaf weeds. March 16, 1987.

Virginia

EPA SLN No. VA 87 0001. FMC Corp. Registration is for Talstar 10 WP to be used on ornamental trees, shrubs, etc., to control various insects. February 3, 1987.

EPA SLN No. VA 87 0002. Dow Chemical Co. Registration is for Lorsban 4E Insecticide to be used on tobacco to control rootknot nematodes. February 6, 1987.

Washington

EPA SLN No. WA 87 0001. Griffin Corp. Registration is for Direx 4L to be used on bluegrass seed to control windgrass. January 21, 1986.

EPA SLN No. WA 87 0002. Ciba-Geigy Corp. Registration is for Ridomil 2E Fungicide to be used on head lettuce to control downy mildew. January 27, 1987.

EPA SLN No. WA 87 0003. E. I. du Pont de Nemours & Co. Registration is for Du Pont Telar Herbicide to be used on wheatgrass stands to control broadleaf weeds. January 21, 1987.

EPA SLN No. WA 87 0004. BASF Corp. Registration is for Post Herbicide to be used on carrots grown for seed to control watergrass (barnyardgrass). February 6, 1987.

EPA SLN No. CA 87 0005. Uniroyal Chemical Co. Registration is for Nutra-Spray Flowable S–52 to be used on spearmint to control powdery mildew. February 20, 1987.

EPA SLN No. WA 87 0006. Leffingwell Corp. Registration is for Uniflow Sulfur to be used on spearmint to control powdery mildew. February 20, 1987.

EPA SLN No. WA 87 0007. Mobay Corp. Registration is for Sencor 4 Flowable to be used on lentils and peas to control broadleaf weeds. March 19, 1987.

EPA SLN No. WA 87 0008. Mobay Corp. Registration is for Sencor DF 75% Dry Flowable to be used on lentils and peas to control broadleaf weeds. March 19, 1987.

Wisconsin

EPA SLN No. WI 87 0001. FMC Corp. Registration is for Funginex 1.6 E.C. Fungicide to be used on cranberries to control cottonball fungus. January 28, 1987.

Wyoming

EPA SLN No. WY 87 0001. Fermenta Animal Health Co. Registration is for Terminator Cattle Ear Tags to be used on cattle to control flies. January 5, 1987.

EPA SLN No. WY 87 0002. Sandoz Crop Protection Corp. Registration is for Banvel to be used on small grains to control weeds. January 5, 1987.

(Sec. 24 as amended, 92 Stat. 835 (7 U.S.C. 136).)

Dated: April 24, 1987.

Douglas D. Campt,

Director, Office of Pesticide Programs.

[FR Doc. 87–10135 Filed 5–5–87; 8:45 am]

BILLING CODE 6560–50–M

[PP 4G3138/T538 FRL–3196–2]

E.I. DuPont de Nemours and Co., Inc.; Extension of Temporary Tolerances

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice.

SUMMARY: EPA has extended temporary tolerances for residues of the herbicide DPX–M6316 (methyl 3-[[[[(4-methoxy-6-methyl-1,3,5-triazin-2-yl)amino]carbonyl]amino]sulfonyl]-2-thiophene-carboxylate) in or on certain raw agricultural commodities.

DATE: These temporary tolerances expire February 10, 1988.

FOR FURTHER INFORMATION CONTACT: By mail: Robert Taylor, Product Manager (PM) 25, Registration Division (TS–767C), Office of Pesticide Programs, Environmental Protection Agency, 401 M Street SW., Washington, DC 20460

Office location and telephone number: Room 245, CM No. 2, 1921 Jefferson Davis Highway, Arlington, VA, (703–557–1800).

SUPPLEMENTARY INFORMATION: EPA issued a notice, which was published in the **Federal Register** of May 22, 1985 (50 FR 21117), announcing the establishment of temporary tolerances for residues of the herbicides DPX–M6316 (methyl 3-[[[[(4-metholxy-6-methyl-1,3,5-triazin-2-yl)amino]carbonyl]amino]sulfonyl]-2-thiophene-carboxylate) in or on the raw agricultural commodities wheat, grain at 0.05 part per million (ppm); wheat, straw at 0.1 ppm; barley, grain at 0.05 ppm; and barley, straw at 0.1 ppm. These tolerances were issued in response to pesticide petition PP 4G3138, submitted by E.I. du Pont de Nemours and Co., Inc., Agricultural Products Dept., Walker's Mill Bldg., Barley Mill Plaza, Wilmington, DE 19898.

These temporary tolerances have been extended to permit the continued marketing of the raw agricultural commodities named above when treated in accordance with the provisions of experimental use permit 352–EUP–138, which is being extended under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) as amended, (Pub. L. 95–396, 92 Stat. 819; 7 U.S.C. 136).

The scientific data reported and other relevant material were evaluated, and it was determined that the extension of these temporary tolerances will protect the public health. Therefore, the temporary tolerances have been extended on the condition that the pesticide be used in accordance with the experimental use permit and with the following provisions:

1. The total amount of the active ingredient to be used must not exceed the quantity authorized by the experimental use permit.

2. E.I. du Pont de Nemours and Co., Inc., must immediately notify the EPA of any findings from the experimental use that have a bearing on safety. The company must also keep records of production, distribution, and performance and on request make the records available to any authorized officer or employee of the EPA or the Food and Drug Administration.

These tolerances expire February 10, 1988. Residues not in excess of this amount remaining in or on the raw agricultural commodities after this expiration date will not be considered actionable if the pesticide is legally applied during the term of, and in accordance with, the provisions of the experimental use permit and temporary tolerances. These tolerances may be revoked if the experimental use permit is revoked or if any experience with or scientific data on this pesticide indicate that such revocation is necessary to protect the public health.

The Office of Management and Budget has exempted this notice from the requirements of section 3 of Executive Order 12291.

Pursuant to the requirements of the Regulatory Flexibility Act (Pub L. 96–354, 94 Stat. 1164, 5 U.S.C. 601–612), the Administrator has determined that regulations establishing new tolerances or raising tolerance levels or establishing exemptions from tolerance requirements do not have a significant economic impact on a substantial number of small entities. A certification statement to this effect was published in the **Federal Register** of May 4, 1981, (46 FR 24950).

Authority: 21 U.S.C. 346a(j).

Dated: April 23, 1987.

Edwin F. Tinsworth,

Director, Registration Division, Office of Pesticide Programs.

[FR Doc. 87–10267 Filed 5–5–87; 8:45 am]

BILLING CODE 6560–50–M

FEDERAL COMMUNICATIONS COMMISSION

[MM Docket No. 87-118; File Nos. BPH-860314MP and 860317NM]

Applications for Consolidated Hearing; Melanie Ann Rubinsky and Humberto L. Lopez; Cotton Broadcasting

1. The Commission has before it the following mutually exclusive applications for a new FM station:

Applicant and city/state	File No.	MM Docket No.
A. Melanie Ann Rubinsky; Robstown, TX.	BPH-860314MP	87-118
B. Humberto L. Lopez, Minerva R. Lopez and Carlos Lopez d/b/a Cotton Broadcasting; Robstown, TX.	BPH-860317NM	

2. Pursuant to section 309(e) of the Communications Act of 1934, as amended, the above applications have been designated for hearing in a consolidated proceeding upon the issues whose headings are set forth below. The text of each of these issues has been standardized and is set forth in its entirety under the corresponding headings at 51 FR 19347, May 29, 1986. The letter shown before each applicant's name, above, is used below to signify whether the issue is question applies to that particular applicant.

Issue Heading and Applicants(s)

1. Air Hazard, A, B
2. Comparative, A, B
3. Ultimate, A, B

3. If there is any non-standardized issue(s) in this proceeding, the full text of the issue and the applicant(s) to which it applies are set forth in an appendix to this Notice. A copy of the complete HDO in this proceeding is available for inspection and copying during normal business hours in the FCC Dockets Branch (Room 230), 1919 M Street, NW., Washington DC. The complete text may also be purchased from the Commission's duplicating contractor, International Transcription Services, Inc., 2100 M Street, NW., Washington DC 20037. (Telephone (202) 857-3800).

W. Jan Gay,

Assisant Chief, Audio Services Division, Mass Media Bureau.

[FR Doc. 87-10215 Filed 5-5-87; 8:45 am]

BILLING CODE 6712-01-M

FEDERAL EMERGENCY MANAGEMENT AGENCY

Agency Information Collection Submitted to the Office of Management and Budget for Clearance

The Federal Emergency Management Agency (FEMA) has submitted to the Office of Management and Budget the following information collection package for clearance in accordance with the Paperwork Reduction Act (44 U.S.C. Chapter 35).

Type: Extension of 3067-0001
Title: National Defense Executive Reserve Personal Qualifications Statement
Abstract: Form 85-3, National Defense Executive Reserve Personal Qualifications Statement, is used in lieu of SF-171, Application for Employment in the Federal Government. It is simplified, requires less burden hours, contains the information for screening qualifications against reserve positions. FEMA uses the form for applicant approval for designation to agencies
Type of Respondents: Individuals or households
Number of Respondents: 200
Burden Hours: 100
Frequency of Recordkeeping or reporting: Other—on-going.

Copies of the above information collection request and supporting documentation can be obtained by calling or writing the FEMA Clearance Officer, Linda Shiley, (202) 646-2624, 500 C Street, SW., Washington, DC 20472.

Comments should be directed to Francine Picoult, (202) 395-7231, Office of Management and Budget, 3235 NEOB, Washington, DC 20503 within two weeks of this notice.

Wesley C. Moore,

Director, Office of Administrative Support.

[FR Doc. 87-10222 Filed 5-5-87; 8:45 am]

BILLING CODE 6718-01-M

Training and Fire Programs Directorate Board of Visitors for the Emergency Management Institute; Open Meeting

In accordance with section 10(a)(2) of the Federal Advisory Committee Act (Pub. L. 92-463), announcement is made of the following committee meeting:

Name: Board of Visitors (BOV) for the Emergency Management Institute (EMI).
Dates of Meeting: June 1-3, 1987.
Place: Federal Emergency Management Agency National Emergency Training Center, Emergency Management Institute, Conference Room, Building N, Emmitsburg, MD 21727
Time: June 1-7:00 p.m. to 9:00 p.m.; June 2-8:30 a.m. to 5:00 p.m.; June 3-8:30 a.m. to Agenda Completion.
Proposed Agenda: Old Business; New Business; Program Orientation; Review of Course Curriculum; Chairperson's Tasking of Committees.

The meeting will be open to the public with approximately ten seats available on a first-come, first-serve basis. Members of the general public who plan to attend the meeting should contact the Office of the Superintendent, Emergency Management Institute, Training and Fire Programs Directorate, 16825 South Seton Avenue, Emmitsburg, Maryland, 21727 (telephone number, 301-447-1251) on or before May 10, 1987.

Minutes of the meeting will be prepared by the Board and will be available for public viewing in the Deputy Associate Director's Office, Training and Fire Programs Directorate, Federal Emergency Management Agency, Building N, National Emergency Training Center, Emmitsburg, MD 21727. Copies of the minutes will be available upon request 30 days after the meeting.

Dated: April 21, 1987.

Caesar A. Roy,

Deputy Associate Director, Training and Fire Programs.

[FR Doc. 87-10223 Filed 5-5-87; 8:45 am]

BILLING CODE 6716-02-M

FEDERAL MARITIME COMMISSION

Agreement(s) Filed

The Federal Maritime Commission hereby gives notice of the filing of the following agreement(s) pursuant to section 5 of the Shipping Act of 1984.

Interested parties may inspect and obtain a copy of each agreement at the Washington, DC Office of the Federal Maritime Commission, 1100 L Street NW., Room 10325. Interested parties may submit comments on each agreement to the Secretary, Federal Maritime Commission, Washington, DC 20573, within 10 days after the date of the **Federal Register** in which this notice appears. The requirements for comments are found in § 572.603 of Title 46 of the Code of Federal Regulations. Interested persons should consult this section before communicating with the Commission regarding a pending agreement.

Agreement No.: 202-008900-038.
Title: The "8900" Lines Agreement.
Parties:
The National Shipping Company of Saudi Arabia

United Arab Shipping Company (S.A.G.)
Waterman Steamship Corporation
A.P. Moller-Maersk Line
Sea-Land Service, Inc.

Synopsis: The proposed amendment would expand the scope of the agreement to cover cargo originating in the United States and moving through Canadian east coast ports, and cargo originating in Canada and moving through U.S. or Canadian east coast ports.

Agreement No.: 202–008900–039.
Title: The "8900" Lines Agreement.
Parties:

The National Shipping Company of Saudi Arabia
United Arab Shipping Company (S.A.G.)
Waterman Steamship Corporation
A.P. Moller-Maersk Line
Sea-Land Service, Inc.

Synopsis: The proposed amendment would modify the agreement authority provisions of the agreement by eliminating specific provisions regarding tie votes with respect to service contracts. It would also modify the voting provisions eliminating the voting requirements.

Agreement No.: 203–010050–007.
Title: U.S.-Flat Far East Discussion Agreement.
Parties:

American President Lines, Ltd.
Sea-Land Service, Inc.
Waterman Steamship Corporation

Synopsis: The proposed amendment would delete Lykes Bros. Steamship Co., Inc. and the United States Line, Inc. as parties to the agreement.

Agreement No.: 203–010664–009.
Title: Pan-Atlantic Carrier Trade Agreement.
Parties:

Compagnie Generale Maritime
Sea-Land Service, Inc.
Hapag-Lloyd Ag
Incotrans B.V.
Atlantic Container Line, B.V.
Dart-ML Limited
Nedlloyd Lijnen, B.V.
Trans Freight Lines
Lykes Bros. Steamship Company, Inc.
Johnson Scanstar
Atlanticargo (South Atlantic Cargo Shipping NV)

Synopsis: The proposed amendment would republish the agreement in its entirety and make certain nonsubstantive changes to the language of the agreement.

Agreement No.: 203–010676–026.
Title: South Europe/U.S.A. Freight Conference.
Parties:

Achille Lauro
C.I.A. Venezolana de Navegacion
Compania Trasatlantica Espanola, S.A.
Costa Line (Costa Container Lines, S.p.A.)
Evergreen Marine Corporation (Taiwan) Ltd.
Farrell Lines, Inc.
"Italia" di Navigazione, S.p.A.
Jugolinija (Jugoslavenska Linijska Plovidba)
Jugooceanija (Jugoslavenska Oceanska Plovida)
Lykes Lines (Lykes Bros. Steamship Co., Ltd.)
A.P. Moller-Maersk Line
Nedlloyd Lines (Nedlloyd Lijnen B.V.)
Sea-Land Service, Inc.
Trans Freight Lines
Zim Israel Navigation Company, Ltd.

Synopsis: The proposed amendment would clarify the agreement authority provision that allows the parties to enter into agreements with forwarders or brokers, or among themselves, on compensation payable to forwarders and brokers. It would specifically clarify that the parties may agree to pay freight forwarders or brokers compensation based on all or a fixed portion of such cargo(es) and/or commodity or commodities moving with the parties.

Agreement No.: 203–011018–002.
Title: Transnave-Navconsa Rationalization Agreement
Parties:

Transnave
Navconsa

Synopsis: The proposed amendment would permit the parties to discuss and reach nonbinding agreement on rates, charges and terms of carriage in the trade served and would simplify the name of the agreement to reflect the broadened scope of authorized activity.

Dated: May 1, 1987.

By Order of the Federal Maritime Commission.

Joseph C. Polking,

Secretary.

[FR Doc. 87–10255 Filed 5–5–87; 8:45 am]

BILLING CODE 6730–01–M

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Advisory Committee Meeting; Circulatory System Devices Panel; Cancellation

AGENCY: Food and Drug Administration.

ACTION: Notice.

SUMMARY: The Food and Drug Administration (FDA) is canceling the meeting of the Circulatory System Devices Panel scheduled for May 22, 1987. The meeting was announced by notice in the **Federal Register** of April 14, 1987 (52 FR 12078).

FOR FURTHER INFORMATION CONTACT: Keith Lusted, Center for Devices and Radiological Health (HFZ–450), Food and Drug Administration, 8757 Georgia Ave., Silver Spring, MD 20910, 301–427–7594.

Dated: April 29, 1987.

John M. Taylor,

Associate Commissioner for Regulatory Affairs.

[FR Doc. 87–10219 Filed 5–5–87; 8:45 am]

BILLING CODE 4160–01–M

Advisory Committee; Plastic Surgery Device Panel; Amendment of Agenda

AGENCY: Food and Drug Administration.

ACTION: Notice.

SUMMARY: The Food and Drug Administration (FDA) is amending an advisory committee meeting notice of the General and Plastic Surgery Devices Panel to reflect a change in the open committee discussion agenda. Notice of the meeting was published in the **Federal Register** of April 14, 1987 (52 FR 12078). The open committee discussion is revised to read as follows:

General and Plastic Surgery Devices Panel

Open Committee Discussion

The committee will discuss a premarket approval application (PMA) for a gelatin matrix implant, a PMA for a collagen-hydroxylapatite implant, a reclassification petition for gut sutures, and, if time allows, a reclassification petition for absorbable poly(glycolide-co-lactide) surgical sutures, and the proposed classification regulation of wound dressing.

Dated: April 29, 1987.

John M. Taylor,

Associate Commissioner for Regulatory Affairs.

[FR Doc. 87–10218 Filed 5–5–87; 8:45 am]

BILLING CODE 4160–01–M

Health Resources and Services Administration

Application Announcement and Proposed Special Considerations for Nursing Special Project Grants; Demonstration Activities

The Health Resources and Services Administration announces the acceptance of applications for Fiscal

Year 1987 for Nursing Special Project Grants under purposes 7, 8 and 9 of Section 820 of Title VIII of the Public Health Service Act, as amended and invites comments on the proposed special considerations listed below.

Nursing Special Project Grants are authorized to improve nursing practice through projects that increase knowledge and improve skills of nursing personnel which enhance their effectiveness in health care delivery.

The Nurse Education Amendments of 1985 (Pub. L. 99–92), enacted August 16, 1985, added three additional purposes (Nos. 7, 8 and 9) for the support of demonstration activities. Separate authorizations for appropriations are made for purposes (Nos. 1 through 6) for which general notices were published in the **Federal Register** on August 11 and December 9, 1986.

The purposes for which grant support may be sought in response to this notice are:

Purpose 7

Demonstrate clinical nurse education programs which combine educational curricula and clinical practice in health care delivery organizations, including acute care facilities, long-term care facilities and ambulatory care facilities.

Purpose 8

Demonstrate methods to improve access to nursing services in noninstitutional settings through support of nursing practice arrangements in communities.

Purpose 9

Demonstrate methods to encourage nursing graduates to practice in health manpower shortage areas (designated under Section 332) in order to improve the specialty and geographical distribution of nurses in the United States.

To be eligible for a grant, the applicant must be a public or nonprofit private school of nursing or other public or nonprofit private entity.

Approximately $1.6 million is available in Fiscal Year 1987 for competing awards. Authorization for the current fiscal year is provided under a Continuing Resolution (Public Laws 99–500 and 591).

To receive support, programs must meet the requirements of final regulations as specified in 42 CFR Part 74, Subpart T.

Section 820, as amended by Pub. L. 99–92, requires that the funds appropriated (annually) for purposes 7 through 9, the Secretary shall give priority to applications for purpose 8 which demonstrate methods to improve access to nursing services in noninstitutional settings in the community.

Proposed Special Considerations

It is proposed to give special consideration to:

(1) Projects which include a target population of minority or disadvantaged persons.

(2) Projects that plan to continue beyond the period in which Federal funding is available and meet a clear financial need.

(3) Projects which demonstrate efforts to recruit and retain minority nurses.

Interested persons are invited to comment on the proposed special considerations. Normally, the comment period would be 60 days. However, due to the need to implement any changes for the Fiscal Year 1987 award cycle, this comment period has been reduced to 30 days. All comments received on or before June 5, 1987 will be considered before final special considerations are established. No funds will be allocated or final selections made until a final notice is published indicating the special considerations to be applied.

Written comments should be addressed to: Director, Division of Nursing, Bureau of Health Professions, Health Resources and Services Administration, Parklawn Building, Room 5C–26, 5600 Fishers Lane, Rockville, Maryland 20857.

All comments received will be available for public inspection and copying at the Division of Nursing, Bureau of Health Professions at the above address weekdays (Federal holidays excepted) between the hours of 8:30 a.m. and 5:00 p.m.

Requests for application materials and questions regarding grants policy should be directed to: Grants Management Officer (D–10), Bureau of Health Professions, Health Resources and Services Administration, 5600 Fishers Lane, Room 8C–22, Rockville, Maryland 20857, Telephone (301) 443–6915.

Additional programmatic information may be obtained from: Nursing Education Branch, Division of Nursing, Bureau of Health Professions, Health Resources and Services Administration, 5600 Fishers Lane, Room 5C–14, Rockville, Maryland 20857, Telephone (301) 443–6193.

The standard application form PHS 6025–1, HRSA Competing Training Grant Application and general instructions for this program have been approved by the Office of Management and Budget under the Paperwork Reduction Act. The OMB clearance number is 0915–0060. A request for OMB approval of the supplemental instructions is being submitted for review.

The application deadline date is June 22, 1987. Applications shall be considered as meeting the deadline if they are either:

1. Received on or before the deadline date, or

2. Postmarked on or before the deadline and received in time for submission to the independent review group. A legibly dated receipt from a commercial carrier or the U.S. Postal Service will be accepted in lieu of a postmark. Private metered postmarks shall not be acceptable as proof of timely mailing.

This program is listed at 13.359 in the Catalog of Federal Domestic Assistance. It is not subject to the provisions of Executive Order 12372, Intergovernmental Review of Federal Programs or 45 CFR Part 100.

Dated: April 21, 1987.

David N. Sundwall,

Administrator, Assistant Surgeon General.

[FR Doc. 87–10217 Filed 5–5–87; 8:45 am]

BILLING CODE 4160–15–M

Office of Human Development Services

Family Violence Prevention and Services

AGENCY: Office of Human Development Services (HDS), HHS.

ACTION: Notice of the availability of FY 1987 funds for State and Indian Tribal grants for family violence prevention and services.

SUMMARY: FY 1987 funds are now available for grants to States (including Territories and Insular Areas) and Indian Tribes and Tribal organizations to assist in establishing, maintaining, and expanding programs and projects to prevent family violence and to provide immediate shelter and related assistance for victims of family violence and their dependents. This Notice sets forth the application process and requirements for these grants.

DATE: Applications must be received by June 22, 1987.

ADDRESS: Address applications to: Office of Policy, Planning and Legislation, Room 316–E, Humphrey Building, 200 Independence Avenue SW., Washington, DC 20201, Attn: William D. Riley.

FOR FURTHER INFORMATION CONTACT: William D. Riley, (202) 245–3109.

SUPPLEMENTARY INFORMATION:

Background

Title III of the Child Abuse Amendments of 1984 (Pub. L. 98–457, 42 U.S.C. 10401 *et seq.*) is entitled the "Family Violence Prevention and Services Act". The purposes of this legislation are to assist States in their efforts to prevent family violence; provide immediate shelter and related assistance for victims of family violence and their dependents; and carry out coordination, research, training, technical assistance, and evaluation activities. The Secretary may also make grants directly to Indian Tribes and Tribal organizations to prevent family violence and provide immediate shelter and related assistance.

Last year, Family Violence Prevention and Services grants were made to 55 States and 65 Indian Tribes. These grants served to supplement many already established community-based family violence prevention and service activities. States, for the most part, distributed family violence grant funds to their existing family violence shelter network systems to meet immediate needs for shelter and related assistance. (The statute requires that at least 60 percent of the funds be used for these purposes.) The method of distribution varied. Some States distributed funds directly to the family violence shelter network; other States used Requests for Proposals (RFPs) or a combination of both mechanisms. In addition to providing immediate shelter and related assistance, some States also made grants to local public or non-profit organizations for special projects and services, e.g., for elder abuse and training.

Reporting Requirement

States and Indian Tribes are reminded that annual program reports are due December 30 of each year beginning December 30, 1987 for FY 1986 funds.

Fiscal Requirements

States and Indian Tribes must expend these FY 1987 funds by September 30, 1988. The Office of Policy, Planning and Legislation will consider written requests for an extension of the period for expenditure if the State or Indian Tribe can provide exceptional circumstances or compelling reasons to support their request.

The Office of Policy, Planning and Legislation will also consider requests for the extension of the expenditure period for FY 1986 Family Violence grants. The FY 1986 grant funds are to be expended by September 30, 1987. Each request for an extension of the expenditure period for FY 1986 funds will require separate documentation and must be received no later then June 30, 1987.

Funds Available

Public Law 99–500, the Continuing Resolution for FY 1987, made $8.5 million available for Family Violence grants in FY 1987. (A total of $8.3 million was available in FY 1986.)

Of this amount, the Department will make $7.2 million (85 percent of total funds) available for grants to States (see section 310(b) of the Act). State allocations are listed at the end of this Notice and have been computed based on the formula in section 304. Section 304 also contains a provision for reallotment to other States of any funds not made available to a State because of such State's failure to meet the requirements for a grant.

The Department has set aside $675,000 for direct grants to Indian Tribes or Tribal organizations.

Eligibility

"States" as defined in section 309(6) of the Act are eligible to apply for funds. The term "State" means each of the several States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the Virgin Islands, the Commonwealth of the Northern Mariana Islands, and the successor entities to the Trust Territory of the Pacific Islands: The Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau.

Last year, given the level of funds available for grants to Indian Tribes, we limited Indian Tribal eligibility to those Federally recognized Tribes which had FY 1986 "638" contracts with the Bureau of Indian Affairs (BIA) to carry out social services programs and activities. Our rationale was that the Indian Tribes already operating social services programs would be able to utilize these funds most effectively. The use of "638" contracts as an eligibility criteria, however, excluded certain Indian Tribes and Tribal organizations in those States where Indian Tribes do not contract with the BIA for services.

This year we have expanded eligibility to include Indian Tribes who have FY 1986 grants under the Indian Child Welfare Act as well as all Indian Tribes who were eligible last year.

Indian Tribes and Tribal organizations are eligible to apply if they: (1) Meet the definitions in sections 4(b) and (c) of the Indian Self-Determination and Education Assistance Act (see section 309(2)); (2) were eligible to apply last year based on a FY 1986 "638" contract with the BIA for social services; or (3) are FY 1986 grantees under the Indian Child Welfare Act. Tribes may apply singly or as a consortium. A list of eligible Indian Tribes is found at the end of this Notice.

Because section 304(a) specifies a minimum base amount for State allocations, we have also set a base amount for eligible Tribes. Tribes which meet the application requirements and whose reservation and surrounding tribal trust lands population is less than 3,000 will receive a minimum of $3,000; Tribes which meet the application requirements and whose reservation and surrounding Tribal trust lands population exceeds 3,000 will receive an minimum of $8,000, except for the Navajo Tribe which will receive a minimum of $24,000. The Department will use the best available population figures from the Census Bureau. Where Census Bureau data is unavailable we will use figures from the BIA Indian Population and Labor Force Report.

The remaining funds will be used to carry out the research, evaluation, coordination, and clearinghouse activities required by the Act.

Matching Requirements

There has been some confusion this past year about the matching requirement. States and Indian Tribes and Tribal organizations are not required to furnish matching funds, but sub-state grantees must meet the requirements in section 303(f).

The match requirement should be computed as follows: In the first year (FY 1986) if the State gave a sub-state grantee $10,000, the required match was $3,500 or 35 percent of the funds received under this Act. If the same sub-state grantee gets $10,000 in the second year (FY 1987), the required match will be $5,500 or 55 percent of the funds received under this Act. The required match should not be computed against total project funds or any amount other than the amount of funds received under the Act.

State Application Requirements

The application requirements for these grants do not go beyond the requirements in the statute. We have cited each requirement to the specific section of the law.

Please note also that the assurance in paragraph (3)(1) below has changed from the assurance the States were required to submit last year. With the exception of Hawaii and the Virgin Islands, States must now assure that they have or have under consideration a procedure for the eviction of an abusing spouse from a shared residence.

The Secretary will approve any application that meets the requirements of the Act and this Notice and will not disapprove an application unless the State or the Indian Tribe or Tribal organization has been given reasonable notice of the Department's intention to disapprove and an opportunity to correct any deficiencies (section 303(a)(3)).

All applications except those from Hawaii and the Virgin Islands must meet the requirements listed below. (Hawaii and the Virgin Islands are referred to the Note at the end of this section.)

The application may be signed by the Chief Executive of the State or by the Chief Program Official designated as responsible for the administration of the Act.

The application must contain the following information:

(1) The name of a contact person, if different from the Chief Program Official, in the State agency designated as responsible for the administration of State programs and activities related to family violence carried out under the Act and for the coordination of related State programs (section 303(a)(2)(D)).

(2) The procedures designed to involve knowledgeable individuals and interested organizations and assure an equitable distribution of grants and grant funds within the State and between rural and urban areas in the State (section 303(a)(2)(C)). (For example, knowledgeable individuals and interested organizations may include: State Advisory Committees on Family Violence; law enforcement officials; and Directors of Family Violence Shelters.)

(3) The application must also contain the following assurances:

(a) That funds under the Act will be distributed in demonstration grants to local public agencies and non-profit private organizations for programs and projects within the State to prevent incidents of family violence and to provide immediate shelter and related assistance for victims and their dependents (section 303(a)(2)(A)).

(b) That not less than 60 percent of the funds distributed shall be used for immediate shelter and related assistance (section 303(g)).

(c) That not more than 5 percent of the funds will be used for State administrative costs (section 303(a)(2)(B)(i)).

(d) That in distributing the funds the States will give special emphasis to the support of community-based projects of demonstrated effectiveness carried out by non-profit private organizations (particularly those projects the primary purpose of which is to operate shelters for victims of family violence and their dependents) and those which provide counseling, alcohol and drug abuse treatment, and self-help services to abusers and victims ((section 303(a)(2)(B)(ii)).

(e) That no entity funded by the State will receive more than $50,000 in any one fiscal year, that no entity will be funded for a total period in excess of three years, and that no entity will receive more than a total of $150,000 under this Act (section 303(c)).

(f) That demonstration grants funded by the State will meet the matching requirements in section 303(f), i.e., 35 percent of the total funds provided under this title in the first year, 55 percent in the second year, and 65 percent in the third year; that except in the case of a public entity, not less than 50 percent of the local matching share shall be raised from private sources; that the local share may be cash or in-

kind; and that the local share may not include any Federal funds provided under any authority other than this title (section 303(f)).

(g) That demonstration grants funded by the State may not be used as direct payment to any victim or dependent of a victim of family violence (section 303(d)).

(h) That no income eligibility standard will be imposed on individuals receiving assistance or services supported with funds appropriated to carry out the Act (section 303(e)).

(i) That procedures will be developed to assure the confidentiality of records pertaining to persons receiving assistance or services from any program assisted under the Act as specified in section 303(a)(2)(E).

(j) That the address or location of any shelter-facility assisted under the Act will not be made public, except with written authorization of the person or persons responsible for the operation of such shelter (section 303(a)(2)(E)).

(k) That all demonstration grants made by the State under the Act must prohibit discrimination on the basis of age, handicap, sex, race, color, national origin or religion (section 307).

(l) That the State has or has under consideration a procedure for the eviction of an abusing spouse from a shared residence (section 303(a)(2)(F)).

(m) That States will comply with Departmental recordkeeping and reporting requirements and general requirements for the administration of grants under 45 CFR Part 74.

Note to Hawaii and the Virgin Islands

Applications from these jurisdictions, because they will be first year applications, must be signed by the Chief Executive of the State and give the name of the agency designated by the Governor to administer this program. The application must meet all of the above requirements except the assurance in paragraph (3)(1) should read as follows:

(1) That within one year after receiving a grant, the State will provide assurances that the State has or has under consideration a procedure for the eviction of an abusing spouse from a shared residence (section 303(a)(2)(F)).

Indian Tribe and Tribal Organization Application Requirements

The application from the Indian Tribe or Tribal organization must be signed by the Chief Executive Officer of the Indian Tribe or Tribal organization and must contain the following information:

(1) The name of the organization or agency designated as responsible for the administration of the programs and activities related to family violence prevention and services carried out under the Act and for coordination of related programs (section 303(a)(2)(D)).

(2) A statement that the applicant has obtained the authority to submit an application on behalf of the Indian individuals in the Tribe(s) (section 303(a)(2)(G)).

(3) The procedures designed to involve knowledgeable individuals and interested organizations in providing services under the Act (section 303(a)(2)(C)).

(4) A brief description of how the Indian Tribe or Tribal organization plans to use the grant funds to prevent incidents of family violence and to provide immediate shelter and related assistance to victims of family violence and their dependents (section 303(a)(2)(G)).

(5) Each application must also contain the following assurances:

(a) That not less than 60 percent of the funds shall be used for immediate shelter and related assistance (section 303(g)).

(b) That no funds under the Act will be used as direct payment to any victim or dependent of a victim of family violence (section 303(d)).

(c) That no income eligibility standard will be applied to individuals receiving assistance or services supported with funds appropriated to carry out the Act (section 303(e)).

(d) That procedures will be developed to assure the confidentially of records pertaining to persons receiving assistance or services from any program assisted under the Act as specified in section 303(a)(2)(E).

(e) That the address or location of any shelter-facility assisted under the Act will not be made public, except with written authorization of the person or persons responsible for the operation of such shelter (section 303(a)(2)(E)).

(f) That Indian grantees will comply with Department recordkeeping and reporting requirements and general grant administration requirements of 45 CFR Part 74.

Notification Under Executive Order 12372

For States, this program is covered under Executive Order 12372, "Intergovernmental Review of Federal Programs" for State plan consolidation and simplification only, 45 CFR 100.12. The review and comment provisions of the Executive Order and Part 100 do not apply. Federally recognized Indian Tribes are exempt from the provisions and requirements of E.O. 12372.

Paperwork Reduction Act

In accordance with the Paperwork Reduction Act of 1980 (Pub. L. 96–511), the application requirements contained in this notice have been approved by the Office of Management and Budget under control number 0980–0175.

(Catalog of Federal Domestic Assistance number 13.671, Family Violence Prevention and Services)

Dated: April 17, 1987.

Jean K. Elder,

Assistant Secretary for Human Development Services-Designate.

State Allocation: Family Violence Prevention and Services Act

Alabama	$112,901
Alaska	50,000
American Samoa	9,031
Arizona	86,388
Arkansas	66,467
California	725,001
Colorado	89,925
Connecticut	89,246
Delaware	50,000
District of Columbia	50,000
Florida	310,577
Georgia	165,164
Guam	9,031
Hawaii	50,000
Idaho	50,000
Illinois	325,715
Indiana	155,571
Iowa	82,341
Kansas	68,986
Kentucky	105,346
Louisiana	126,257
Maine	50,000
Maryland	123,059
Massachusetts	164,060
Michigan	256,786
Minnesota	117,768
Mississippi	73,513
Missouri	141,706
Montana	50,000
Nebraska	50,000
Nevada	50,000
New Hampshire	50,000
New Jersey	212,644
New Mexico	50,000
New York	501,830
North Carolina	174,445
North Dakota	50,000
Northern Mariana Islands	9,031
Ohio	304,239
Oklahoma	93,320
Oregon	75,664
Palau	9,031
Pennsylvania	336,751
Puerto Rico	92,273
Rhode Island	50,000
South Carolina	93,377
South Dakota	50,000
Tennessee	133,472
Texas	452,425
Utah	50,000
Vermont	50,000
Virginia	159,476
Virgin Islands	9,031
Washington	123,059

State Allocation: Family Violence Prevention and Services Act—Continued

West Virginia	55,234
Wisconsin	134,859
Wyoming	50,000
Total	7,225,000

Indian Tribal Eligibility

Below are two lists of Indian Tribes which have "638" contracts with the BIA to provide social services and/or are FY 1986 ICWA grantees. Tribes are listed by BIA Area Office based on Census Bureau population data or, where that is not available, BIA data.

Tribes Under 3,000 Population

Eastern Area Office

Houlton Band of Maliseet Indians of Maine
Indian Township Passamaguoddy Reservation of Maine
Miccosukee Tribe of Indians of Florida
Narragansett Indian Tribe of Rhode Island
Penobscot Tribe of Maine
Pleasant Point Passamaguoddy Reservation of Maine
Seminole Tribe of Florida

Aberdeen Area Office

Cheyenne River Sioux Tribe of the Cheyenne River Reservation, South Dakota
Crow Creek Sioux Tribe of the Crow Creek Reservation, South Dakota
Devil's Lake Sioux Tribe of the Devil's Lake Sioux Reservation, North Dakota
Lower Brule Sioux Tribe of the Lower Brule Reservation, South Dakota
Winnebago Reservation of Nebraska
Yankton Sioux Tribe of South Dakota

Minneapolis Area Office

Grand Traverse Band of Ottawa and Chippewa Indians of Michigan
Menominee Indian Tribe of Wisconsin
Michigan Inter-Tribal Council on behalf of:
  Bay Mills Indian Community
  Hannahville Indian Community
  Keweenah Bay Indian Community
Saginaw Chippewa Indian Tribe of Isabella Reservation, Michigan
Sault Saint Marie Tribe of Chippewa Indians of Michigan
Prairie Island Community of Minnesota
Oneida Tribe of Indians of Wisconsin
Forest County Potawatomi of Wisconsin
Lac du Flambeau Reservation of Wisconsin
Red Cliff Band of Lake Superior Chippewa Indians of Wisconsin
Upper Sioux Tribe of Minnesota
Bad River Tribal Council, Wisconsin
Lower Sioux Tribe of Minnesota
Shakopee Community of Minnesota
Minnesota Chippewa:
  Nett Lake Reservation (Bois Fort)
  Fond du Lac Reservation
  Grand Portage Reservation
  Mille Lac Reservation
St. Croix Chippewa, Wisconsin

Anadarko Area Office

Apache Tribe of Oklahoma
Cheyenne-Arapaho Tribes of Oklahoma
Comanche Indian Tribe of Oklahoma
Kiowa Indian Tribe of Oklahoma
Wichita Indian Tribe of Oklahoma
Four Tribes of Kansas
  Iowa Tribe of Kansas and Nebraska
  Kickapoo Tribe of Kansas
  Sac and Fox Tribe of Kansas and Nebraska
  Prairie Band of Potowatomi of Kansas
Absentee Shawnee Tribe of Oklahoma
Sac and Fox Tribe of Oklahoma
Pawnee Tribe of Oklahoma
Kickapoo Tribe of Oklahoma
Citizen Band of Potowatomi, Oklahoma
Fort Sill Apache Tribe of Oklahoma
Tonkawa Tribe of Oklahoma
Otoe-Missouria Tribes Oklahoma

Billings Area Office

Chippewa-Cree Indians of the Rocky Boy's Reservation, Montana
Fort Belknap Indian Tribe of Montana

Phoenix Area Office

Cocopah Tribe of Arizona
Colorado River Indian Tribes of the Colorado River Indian Reservation, Arizona and California
Duckwater Shoshone Tribe of the Duckwater Reservation, Nevada
Elko Band Council
Ft. McDermitt Paiute and Shoshone Tribes of the Ft. McDermitt Indian Reservation, Nevada
Ft. McDowell Mohave-Apache Indian Community, Arizona
Ft. Mojave Indian Tribe of Arizona
Hualapai Tribe of the Hualapai Reservation, Arizona
Kaibab Band of Paiute Indians of the Kaibab Indian Reservation, Arizona
Las Vegas Tribe of Paiute Indians of the Las Vegas Indian Colony, Nevada
Moapa Band of Paiute Indians of the Moapa River Indian Reservation, Nevada
Paiute Indian Tribe of Utah
Paiute-Shoshone Tribe of the Fallon Reservation and Colony, Nevada
Pascua Yaqui Tribe of Arizona
Pyramid Lake Paiute Tribe of the Pyramid Lake Reservation, Nevada
Quechan Tribe of the Ft. Yuma Indian Reservation, California
Reno-Sparks Indian Colony, Nevada

Salt River Pima-Maricopa Indian Community of the Salt River Reservation, Arizona
Shoshone Paiute Tribes of the Duck Valley Reservation, Nevada
Havasupai Tribe of Arizona
Yavapai-Prescott Tribe, Arizona
Te-Moak Bands of Western Shoshone Indians, Nevada
Ute Indian Tribe of the Unitah and Ouray Reservation, Utah
Walker River Paiute Tribe of the Walker River Reservation, Nevada
Washoe Tribe of Nevada and California
Yavapai-Apache Indian Community of the Camp Verde Reservation, Arizona
Yerington Paiute Tribe of the Yerington Colony and Campbell Ranch

Albuquerque Area Office

Jicarilla Apache Tribe, New Mexico
Pueblo of Acoma, New Mexico
Pueblo of Isleta, New Mexico
Pueblo of Jemez, New Mexico
Pueblo of Picuris, New Mexico
Pueblo of San Felipe, New Mexico
Pueblo of San Juan, New Mexico
Pueblo of Santa Clara, New Mexico
Pueblo of Santo Domingo, New Mexico
Pueblo of Taos, New Mexico
Pueblo of Zia, New Mexico
Southern Ute Indian Tribe of the Southern Ute Reservation, Colorado
Ute Mountain Tribe of the Ute Mountain Reservation, Colorado, New Mexico and Utah
Pueblo of San Ildefonso, New Mexico
Pueblo of Tesuque, New Mexico
Ramah Community, New Mexico

Portland Area Office

Burns Paiute Indian Colony, Oregon
Confederated Tribes of the Siletz Reservation, Oregon
Confederated Tribes of the Umatilla Reservation, Oregon
Confederated Tribes of the Warm Springs Reservation, Oregon
Kootenai Tribe of Idaho
Metlakatla Indian Community, Alaska
Nez Perce Tribe of Idaho
Quinault Tribe of the Quinault Reservation, Washington
Nisqually Tribe of Washington
Tulalip Tribes of Washington
Swinomish Tribe of Washington
Nooksak Tribe of Washington
Suquamish Tribe of Washington
Sauk-Suiattle Tribe of Washington
Stillquamish Tribe of Washington
Quileute Tribe of Washington
Upper Skagit Indian Tribes of Washington
Skokomish Tribe of Washington
Muckleshoot Tribe of Washington
Puyallup Tribe of Washington
Makah Tribe of Washington
Squaxin Island Tribe of Washington

Juneau Area Office

Ketchikan Indian Corporation, Alaska
Kuskokwim Native Association, Alaska
Orutsaramuit Native Council, Alaska
Sitka Community Association, Alaska
Tanana Indian Reorganization Act Council, Alaska
United Crow Band, Alaska
Kawerak, Inc., Alaska
Kotzebue Native Association, Alaska
Kodiak Native Association, Alaska
Northern Pacific Rim Association, Alaska
Copper River Association, Alaska
Kenaitze, Inc., Alaska
Aleutian Pribilof Islands, Alaska
Tyonek, Alaska

Sacremento Area Office

Big Lagoon Rancheria, California
Coastal Indian Community of the Resighina Rancheria
Trinidad Rancheria
Torres-Martinez Band of Mission Indians
Morongo Band of Cahuilla Mission Indians
Cahuilla Band of Mission Indians
Jamul Indian Village
La Jolla Indian Band of Mission Indians
Soboba Band of Mission Indians

Tribes Over 3,000 Population

Eastern Area Office

Eastern Band of Cherokee Indians of North Carolina
Mississippi Band of Choctaw Indians, Mississippi

Aberdeen Area Office

Oglala Sioux Tribe of the Pine Ridge Reservation, South Dakota
Rosebud Sioux Tribe of the Rosebud Indian Reservation, South Dakota
Standing Rock Sioux Tribe of the Standing Rock Reservation, North and South Dakota
Turtle Mountain Band of Chippewa Indians, Turtle Mountain Indian Reservation, North Dakota
Three Affiliated Tribes of the Fort Berthold Reservation, North Dakota
Sisseton-Wahpeton Sioux Tribe of the Lake Traverse Reservation, South Dakota

Billings Area Office

North Cheyenne Tribe of the Northern Cheyenne Indian Reservation, Montana
Shoshone-Arapahoe Tribes of Wyoming (Wind River Reservation)

Phoenix Area Office

Gila River Pima-Maricopa Indian Community of the Gila River Reservation, Arizona
Hopi Tribe of Arizona
Papago Tribe of the Sells, Gila Bend and San Xavier Reservations, Arizona
San Carlos Apache Tribe of the San Carlos Reservation, Arizona
White Mountain Apache Tribe of the Fort Apache Indian Reservation, Arizona

Navajo Area Office

Navajo Tribe of Arizona, New Mexico and Utah

Albuquerque Area Office

Pueblo of Laguna, New Mexico
Zuni Tribe of the Zuni Reservation, New Mexico

Portland Area Office

Confederated Salish and Kootenai Tribes of the Flathead Reservation, Montana
Confederated Tribes of the Colville Reservation, Washington
Yakima Indian Nation, Washington
Shoshone-Bannock Tribes of the Fort Hall Reservation, Idaho

Juneau Area Office

Association of Village Council Presidents, Alaska
Central Council of the Tlingit and Haida Indians of Alaska
Tanana Chiefs Conference, Alaska
Bristol Bay Native Association of Alaska
Fairbanks Native Association, Alaska
Cook Inlet Corporation, Alaska

Muskogee Area Office

Cherokee Nation of Oklahoma
Choctaw Nation of Oklahoma
Muskogee Creek Nation of Oklahoma

Minnesota Area Office

Minnesota Chippewa:
White Earth Reservation
Leech Lake Reservation.

[FR Doc. 87-10245 Filed 5-5-87; 8:45 am]
BILLING CODE 4130-01-M

Social Security Administration

[Program Announcement No. SSA-OP-87-1]

Federal Old-Age, Survivors, and Disability Insurance; Availability of Funds

ACTION: Announcement of the availability of funds for section 702 and section 1110 grants.

SUMMARY: The Commissioner of Social Security announces that competing applications will be accepted for new research grants authorized under section 702 and section 1110 of the Social Security Act (The Act). This announcement describes the nature of the grant activities and gives notice of the anticipated availability of fiscal year

(FY) 1987 funds in support of the proposed activities. This program announcement consists of three parts. Part I discusses the purpose of the announcement and briefly describes the application process. Part II describes the programmatic priorities under which the Social Security Administration (SSA) is soliciting applications for funding. Part III describes the application process in detail and provides guidance on how to submit an application.

DATE: The closing date for the receipt of grant applications in response to this announcement will be July 6, 1987.

Application Receipt Point: Grants Management Branch, Division of Contract and Grant Operations, Office of Acquisition and Grants, Office of Management, Budget and Personnel, Social Security Administration, Room 1–C–1 Dogwood West Building, 1848 Gwynn Oak Avenue, Baltimore, Maryland 21207, Attn: SSA–OP–87–1.

SSA Contact Point: Social Security Administration, Office of Policy, Office of Research, Statistics, and International Policy, 717 Altmeyer Building, 6401 Security Boulevard, Baltimore, Maryland 21235, Telephone (301) 594–1071.

Part I. Purpose

A. Program Purpose, Goals and Objectives

This research is intended to add to existing knowledge and to improve methods and techniques for the management, administration, and effectiveness of SSA programs.

In general, SSA will fund the following types of projects:

1. Those that examine retirement behavior, specifically, the relationship between health, ability to work, and mortality; the measurement of ability to work; and, physically demanding occupations.

2. Those that examine certain financial aspects of the Social Security system.

3. Those that examine changes in economic status after retirement.

B. Fiscal Year 1987 Grant Process

The grant application process for FY 1987 will consist of a one-stage, full application. Applications are limited to 20 single spaced pages (excluding resumes, forms, etc.) and must relate to the selection criteria established for review of applications.

Priority areas in this year's announcement permit applicants to propose multi-year projects for two of the research areas. For these areas only, applicants should be aware that continuation of funding beyond the first budget period is contingent on the availability of funds, satisfactory performance, and continued relevance of the project. For multi-year projects, the budget period is 12 months per year.

Project duration under most priority areas, however, is limited to a single budget period. In the case of the projects that are limited to a single budget period, that budget period is normally 12 months.

The budget for a project with a single budget period should be for the total amount planned for the project through its completion. The cover form for the application (Standard Form 424) should reflect the amount requested for the budget period for multi-year projects, or the total amount requested for projects with a single budget period.

Part II. Priority Research Areas

In particular, the following projects will be considered for funding:

Retirement Behavior—SSA–OP–87–001

The change in the age structure of the labor force that will occur over the next 2 or 3 decades may increase the demand for older workers. At the same time, beginning in 1990, the Social Security benefit structure will increase incentives for older persons to continue working. The extent to which older persons do, in fact, extend their worklives, however, depends on their ability and willingness to work longer. SSA is encouraging research that will increase knowledge of the ability of older persons to continue working in the future and help refine estimates of future research trends. Topics of particular interest include:

(1) The relationship between health, ability to work, and mortality.

The ultimate objective of research is to project the future work capacity of older persons approaching retirement age. Although much research has been done that relates disease and impairment to functional limitation, disability and ultimately, death, the models tend to fall short of current needs in the following ways:

(A) The models are not sufficiently explicit about the relationship between health and the ability to work (as apart from the ability to perform other social roles and daily activities).

(B) The models do not adequately explain the relationship between changes in health, changes in ability to work and changes in mortality.

(C) The models do not specifically focus on workers approaching retirement age, or on the effect of aging as it relates to the health/work relationship.

(D) The models are inadequate for projecting the ability to work of older people in the future.

Grant proposals should focus on one or more of the areas above in order to answer such questions as:

- Under what conditions will reductions in mortality (at all age levels) result in a population of older workers with unchanged or reduced ability to work? Can there be improvements in the health status of the elderly (resulting from, for example, reductions in the incidence or severity of chronically disabling conditions) with no accompanying increase in life expectancy?
- What factors (i.e., reduction in incidence or severity of chronic disease, changes in work environment or life styles, and advances in medical technology such as prosthetics, etc.) will affect the health status and ability to work of older workers in the future? Through what mechanisms and to what extent will such factors influence changes in the ability to work of older persons?
- How important are the physical demands of the occupation and/or industry in which an individual works during his/her prime working years in determining that individual's ability to work during the latter stages of the working years?

Grant proposals should be based on well-conceptualized models of the determinants of health and mortality and the disease-mortality process and should incorporate chronic disabling diseases as well as life-threatening diseases.

(2) Measurement of ability to work.

The effect of extending the statutory age of retirement depend upon the health of older workers as related to ability to work. Much of the future research in this area will, of necessity, come from personal interview surveys in which health, functional capacity and ability to work will be measured by indices comprised of self reports of health problems and function or activity limitations. To what extent can indices of health conditions and functional limitations currently used in social science research serve as indicators of ability to work for the retirement age population? Which specific indices might be used and have they been (or can they be) validated? How can existing indices be modified to measure the work capacity of the retirement age population? What kinds of new indices can be developed? Should indicators of ability to work be job related? How would job related indices be constructed for use in the survey research context?

Grant proposals should focus on the measurement of health/ability to work of older workers approaching retirement age. The approach to the problem should be broad, emphasizing conceptual issues; however, empirical dimensions of the measurement problem resulting in specific suggestions for measurement algorithims must be included as a part of the effort. All studies should include critical review and evaluation of existing literature and research dealing with the topic.

(3) Physically demanding occupations. The identification and measurement of physically demanding jobs is difficult both conceptually and empirically. A need exists to clarify the concept of "physically demanding jobs" and improve estimation. What dimensions of an occupation determine its physical demands? How should occupational hazards—accidents and environmental hazards—be incorporated? Can these dimensions be combined into a meaningful single index? What is the relationship between physically demanding jobs and health, mortality, stress, and fatigue?

Grant proposals should focus on the basic determinants of physically demanding occupations and on the techniques leading to the most accurate indices or measures of physical demands. Consideration must be given to both conceptual and empirical dimensions of the measurement problem resulting in specific suggestions for measurement algorithms.

Multi-year projects will be considered for each of the three topics discussed above. It is anticipated that a total of $197,000 will be allocated to fund up to three (3) projects for an initial 12-month period. Subsequent funding may be available for continuation of the activities based on acceptable performance, availability of fiscal year funds, and continuing relevance of the research topic.

Note.—The SSA will hold meetings to foster the sharing of work in progress. Principal investigators will be required to attend these meetings. Funds should be included in the budget for two meetings per year at the SSA Headquarters Office to discuss the research with SSA staff.

Financial Aspects of the Social Security System—SSA–OP–87–002

One question that comes up in "money's worth" comparisons of Social Security and private retirement alternatives is the appropriate private comparison—government bonds, corporate bonds, private pension portfolios, etc. Do we compare the rate of return on Social Security to that on government bonds, corporate bonds, private pension portfolios, etc., or some combination thereof? Another way of framing this question is what rate—that on government bonds, corporate bonds, etc.—should be used to discount (i.e., to determine today's value of) future benefits and flows in developing estimates of the Social Security wealth perceived by workers and retirees? A related question is: What rates are appropriate for developing estimates of human capital (earnings wealth), other government taxes, and transfer wealth perceived by individuals? These rates of return, or equivalently, the rates at which future flows are discounted, vary with the risk associated with the investment instrument (e.g., corporate stocks, bonds), or types of flow (e.g., Social Security benefit, future earnings, etc.). How important is the risk component of these rates, and how is that risk component related to the types of uncertainty with the instrument or flow?

Perspectively, how do individuals choose the composition of their portfolios of retirement instruments, taking into account both the rate-of-return and risk of alternate instruments? What are the risks associated with Social Security wealth and how does such wealth enter into such portfolio decisions? How do these factors influence the choice of an appropriate comparison against which to measure the value of Social Security? Or the choice of the discount rate appropriate for estimating alternative types of wealth held by individuals (e.g., human capital)? What measures of rate-of-return and risk for alternative retirement instruments (such as IRA's, private pension funds, etc.) are available? What has been the historical experience? What are the projections for the future?

Multi-year projects will be considered for this priority area. It is anticipated that $75,000 will be allocated to fund one (1) project for an initial 12-month period. Subsequent funds may be awarded for continuation of the activity based on acceptable performance, availability of funds and continuing relevance of the research topic.

Economic Changes after Retirement—SSA–OP–87–003

This project is intended to encourage research related to changes in economic status of the aged after retirement. Because the analyses will focus on change, the most appropriate data sources to use are longitudinal. One such study, the Retirement History Survey (RHS) is particularly relevant because its intent was to study the retirement process and concomitant changes. The RHS was a 10-year national sample survey, begun in 1969, with reinterviews biennially through 1979. There were over 11,000 initial sample respondents, consisting of men and nonmarried women aged 58–63 in 1969. Questionnaires elicited information on work experience, health, living arrangements, financial resources and assets, expenditures, activities, attitudes, family, spouses' health and work experience, and widowhood.

Most prior research using the RHS has focused on the determinants of retirement behavior and on changes in economic status in the first part of the 10-year survey period. Only a few recent studies have utilized the full survey period to measure change in economic status. This announcement is intended to encourage use of the entire 10 years' data to examine changes as long after retirement as possible. Data from the study are available from Duke University's Survey Data Lab for the Study of Aging and Human Development and the Inter-University consortium for Political and Social Research, National Archive of Computerized Data on Aging, at the University of Michigan.

Topics that could be addressed include, but are not limited to:

- Changes in sources and amount of income; factors associated with changes in income.
- Changes in the economic circumstances of women as they move into and adjust to widowhood.
- Movements into (or out of) poverty. For how many is poverty a long-term situation? Are specific factors (such as the cost of a catastrophic illness) associated with a transition into poverty in old age? What factors are associated with a movement out of poverty?
- Changes in asset holdings. Is there evidence of discretionary savings or dissavings? With what factors is it associated?
- Does the amount of private pensions (and the share of income from such pensions) change over time? If so, under what circumstances?
- How do spending patterns change and how are these changes related to changes in health and/or income or other factors?
- What are the dynamics of financial transfers within families and/or within households?
- Changes in health care costs; how are the costs being met?
- What are the economic correlates of mortality and morbidity? Are factors such as high socioeconomic status associated with differential health and survival?

Proposals that identify the expected methods of analysis and the possible variables to be considered as well as their logic for inclusion will be given preference. In addition, proposals should explain how methodological issues, such as the following, will be addressed:

• How to measure individual change over time. Aggregate data for two or more time periods, even among the same cohort, may mask individual change which occurs for subgroups. Methods need to be developed to examine the dynamics of change over time.

• How does attrition influence results? Attrition in longitudinal surveys occurs due to refusal to be interviewed, death, or institutionalization or other reasons. What are the prior attributes of the respondents who drop out? How do the types of nonrespondents differ from each other and from respondents? Does analysis focusing only on surviving, noninstitutionalized respondents bias results and, if so, in what ways?

• How to deal with item nonresponse in the longitudinal analyses. What techniques will be used to account for nonresponse in independent and dependent variables to avoid biases in estimates of the amount of change over time and its correlates?

Interested applicants will receive an informational packet, including a bibliography of publications based on the RHS, along with the grant application.

It is anticipated that $275,000 will be allocated to fund up to five (5) projects not to exceed 12 months in duration.

Part III. Application Process

A Eligible Applicants

Any State or local government and public or private organization or agency (including an educational institution) may apply for a grant under this announcement. For-profit organizations may apply with the understanding that no grant funds may be paid as profit to any grant recipient. Profit is considered any amount in excess of the allowable costs of the grant recipient.

B. Availability and Duration of Funding

These grant projects will be funded under the authority of section 702 and section 1110 of the Social Security Act. SSA anticipates allocating $197,000 to fund three (3) projects in priority area SSA–OP–87–001 (Retirement Behavior), $75,000 to fund one (1) project in priority area SSA–OP–87–002 (Financial Aspects of the Social Security System), and $275,000 to fund five (5) projects in priority area SSA–OP–87–003 (Economic Changes After Retirement). Applications will be accepted for multi-year projects in priority areas SSA–OP–87–001 and SSA–OP–87–002 only. The initial grant award will be issued for a 12-month period but may be continued on a non-competitive basis for additional 12-month periods if the grant recipient demonstrates acceptable progress, fiscal year funds are available, and the activity has continuing relevance to program goals.

C. Grantee Share of the Project

Grant recipients receiving assistance to conduct these research projects are expected to contribute towards the project costs. Generally, 5 percent of the total costs is considered acceptable. No grant will be awarded that covers 100 percent of the project's costs.

D. The Application Process for Proposals Requesting Grant Funds

Organizations wishing to compete for grants under this announcement must submit an application by July 6, 1987. Applications received in response to this announcement will be reviewed by Federal and non-Federal personnel. Successful applicants may expect funding during the third quarter of FY 1987.

1. Availability of Application Forms

Application kits which contain the prescribed application forms for grant funds are available from the Grants Management Branch, Division of Contract and Grant Operations, Office of Acquisition and Grants, Office of Management, Budget and Personnel, Social Security Administration, 1–C–1 Dogwood West Building, 1848 Gwynn Oak Avenue, Baltimore, Maryland 21207, telephone (301) 594–2084, Mr. Lawrence H. Pullen, Chief, Grants Management Branch.

When requesting an application kit, the applicant should refer to project announcement number SSA–OP–87–1 and the date of this announcement to insure receipt of the proper application kit.

2. Additional Information

For additional information concerning project development, please contact Mrs. Towanda R. McIver, Office of Research, Statistics, and International Policy, Office of Policy, Social Security Administration, 717 Altmeyer Building, 6401 Security Boulevard, Baltimore, Maryland 21235, telephone (301) 597–2927.

3. Application Submission

All applications requesting Federal grant funds must be submitted on the standard forms provided by the Grants Management Branch. The application shall be executed by an individual authorized to act for the applicant organization and to assume for the applicant organization the obligations imposed by the terms and conditions of the grant award.

As part of the project title (page 1 of the application form SSA–96, item 7), the applicant must clearly indicate the application submitted is in response to this announcement (SSA–OP–87–1) and must show the appropriate project identifier (i.e., SSA–OP–87–001 etc.)

Applications must be submitted to: Grants Management Branch, Division of Contract and Grant Operations, Office of Acquisition and Grants, Office of Management, Budget and Personnel, Social Security Administration, 1–C–1 Dogwood West Building, 1848 Gwynn Oak Avenue, Baltimore, Maryland 21207.

4. Application Consideration

Applications are initially screened for relevance to this announcement. If judged irrelevant, the applications are returned to the applicants. Applications that conform to the requirements of this program announcement will be reviewed competitively against the evaluation criteria specified in No. 7(b) of this announcement and evaluated by Federal officials and qualified persons from outside the Federal government. The results of this evaluation will assist the Commissioner of Social Security, the Associate Commissioner for Policy and other members of SSA Senior Staff in considering competing applications. Senior staff may also take into account comments from SSA headquarters program staff offices. The Commissioner of Social Security, Associate Commissioner for Policy and other members of the SSA Senior Staff will determine the action to be taken on each application.

5. Application Approval

Grant awards will be issued within the limits of Federal funds available following the approval of the applications selected for funding. Grants awarded pursuant to this announcement are expected to be issued in June/July 1987. The official award document is the "Notice of Grant Award". It will provide the amount of funds awarded, the purpose of the award, the budget period for which support is given, the total project period for which support is contemplated, the total grantee financial participation, and will specify any special terms and conditions of the award.

6. Non-Priority Area Projects

Applicants may also submit proposals for projects for funding in areas not specifically identified in this annoucement but relevant to the goals and objectives of Title II of the Social Security Act relating to the Federal Old-Age and Survivors Insurance Program. These applications will be designated as non-priority due to funding limitations but also will be subject to the panel review process. A limited number of projects may be approved pending available funds and will compete with other non-priority projects.

7. Criteria for Screening and Reviewing of Applications

(a) *Screening Requirements.* In order for an application to be in conformance, it must meet all of the following requirements:

(1) *Number of copies:* An original signed application and two copies must be submitted. Five additional copies are optional but will expedite processing.

(2) *Length:* The narrative portion of the application must not exceed 20 single-spaced pages, exclusive of resumes, forms, etc., typewritten on one side of the paper only. Applications should neither be unduly elaborative nor contain voluminous documentation.

(3) *SSA Priorities:* Those projects which specifically address a priority area stated on this announcement will receive preference. Non-priority area applications which relate to the goals and objectives of Title II will be considered for funding pending available funds.

(4) *Non-Federal Contribution (Match):* A non-Federal contribution of at least 5 percent must be proposed.

UNDER NO CIRCUMSTANCES WILL APPLICATIONS THAT DO NOT MEET THESE SCREENING REQUIREMENTS BE REFERRED TO REVIEW PANELS.

(b) *Evaluation Criteria.* Applications which pass the screening will be reviewed by at least three individuals. Reviewers will score the applications, basing their scoring decisions on the following criteria. Relative weights are shown in parentheses.

(1) Project Methodology: (30 Points)

The application describes specific plans for conducting the project in terms of the task to be peformed. It includes relevant information about: (1) Hypothesis to be tested (if appropriate); (2) concise and clear statement of goals and measurable objectives; (3) what the project will do; (4) how the project will be conducted; (5) data to be collected (including specification of data sources); (6) plan for data analysis; and (7) milestones in the progress of the project. A detailed discussion is provided on how the approach proposed will accomplish the project objectives.

(2) Level of Effort: (25 Points)

The resources that will be needed to conduct the project are specified, including personnel, time, funds and facilities. The staff (or other personnel resources) are qualified and the team has the variety of skills required and ability to produce final results that are readily comprehensible and usable. The staffing pattern clearly links responsibilities to project tasks. The project's costs are reasonable in view of the anticipated results. Any collaborative effort with other organizations is clearly identified and written assurances referenced. A description by category (personnel, travel, etc.) of the total of the Federal funds required and of the source of funds that will be used to meet the matching requirement is included. Funds are specified for each budget period.

(3) Project Objectives: (25 Points)

How closely do the project objectives fit:

- Those of the announcement (for priority area projects);
- SSA program goals and objectives (for non-priority area projects).

What is the intrinsic merit of the research?

The need for the project is discussed in terms of the importance of the issues to be addressed. It also describes how the proposed project builds upon previous research.

(4) Expected Outcomes: (20 Points)

The potential usefulness of the anticipated results and expected benefits to SSA and other target groups. The potential usefulness of the proposed project for the advancement of scientific knowledge.

8. Closing date for receipt of applications.

The closing date for receipt of grant applications for Federal funds in response to this announcement is July 6, 1987.

Applications may be mailed or sent by commercial carrier or personally delivered to: Grants Management Branch, Division of Contract and Grant Operations, Office of Acquisition and Grants, Office of Management, Budget and Personnel, Social Security Administration, Room 1–C–1, Dogwood West Building, 1848 Gwynn Oak Avenue, Baltimore, Maryland 21207.

Applications must be received by the Grants Management Branch on or before the above closing date to be considered. Personally delivered applications are accepted during normal working hours of 8:30 a.m. to 5:00 p.m., Monday through Friday on or prior to the established closing date. An application will be considered to be received on time if personally delivered to SSA, mailed through the U.S. Postal Service, or sent by commercial carrier on or before the closing date (as evidenced by a legible U.S. Postal Service postmark or legibly dated receipt from a commercial carrier). Private metered postmarks will not be considered acceptable as proof of timely mailing.

Applications submitted by any means other than the U.S. Postal Service or commercial carrier shall be considered as acceptable only if physically received at the above address on or before the deadline date. Applications which are not received on time will not be considered for funding.

Paperwork Reduction Act

This notice contains reporting requirements in "The Application Process" section. However, the information is collected using form SSA–96, *Federal Assistance,* and it has OMB clearance No. 0960–0184.

Executive Order 12371—Intergovernmental Review of Federal Programs

This program is not covered by the requirements of Executive Order 12372 relating to the Federal policy for consulting with State and local elected officials on proposed Federal financial assistance.

(Catalong of Federal Domestic Assistance Program No. 13.812—Assistance Payments—Research and Demonstrations)

Dated: May 1, 1987.

Dorcas R. Hardy,

Commissioner of Social Security.

[FR Doc. 87–10378 Filed 5–5–87; 8:45 am]

BILLING CODE 4190–11–M

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Office of Administration

[Docket No. N–87–1697]

Submission of Proposed Information Collections to OMB

AGENCY: Office of Administration, HUD.

ACTION: Notice.

SUMMARY: The proposed information collection requirements described below have been submitted to the Office of Management and Budget (OMB) for review, as required by the Paperwork

Reduction Act. The Department is soliciting public comments on the subject proposals.

ACTION: Interested persons are invited to submit comments regarding these proposals. Comments should refer to the proposal by name and should be sent to: John Allison, OMB Desk Officer, Office of Management and Budget, New Executive Office Building, Washington, DC 2053.

FOR FURTHER INFORMATION CONTACT: David S. Cristy, Reports Management Officer, Department of Housing and Urban Development, 451 7th Street, SW., Washington, DC 20410, Telephone (202) 755–6050. This is not a toll-free number.

SUPPLEMENTARY INFORMATION: The Department has submitted the proposal described below for the collection of information to OMB for review, as required by the Paperwork Reduction Act (44 U.S.C. Chapter 35).

The Notice lists the following information: (1) The title of the information collection proposal; (2) the office of the agency to collect the information; (3) the description of the need for the information and its proposed use; (4) the agency form number, if applicable; (5) what members of the public will be affected by the proposal; (6) how frequently information submissions will be required; (7) an estimate of the total number of hours needed to prepare the information submission; (8) whether the proposal is new, an extension, reinstatement, or revision of an information collection requirement; and (9) the names and telephone numbers of an agency official familiar with the proposal and of the OMB Desk Officer for the Department.

Copies of the proposed forms and other available documents submitted to OMB may be obtained from David S. Cristy, Reports Management Officer for the Department. His address and telephone number are listed above. Comments regarding the proposal should be sent to the OMB Desk Officer at the address listed above.

The proposed information collection requirement is described as follows:

Notice of Submission of Proposed Information Collection to OMB

Proposal: Hud Acquisition Regulation Requirements
Office: Administration
Description of the Need for the Information and Its Proposed Use: The HUD Acquisition Regulation (HUDAR) was issued to implement and supplement the Federal Acquisition Regulation. Information collection required of the public is solely in connection with the procurement process
Form number: None
Respondents: Individuals or Households, State or Local Governments, Businesses or Other For-Profit, Non-Profit Institutions, and Small Businesses or Organizations
Frequency of Response: On Occasion
Estimated Burden Hours: 518
Status: Extension
Contact: Gladys Gines, HUD, (202) 755–5294; John Allison, OMB, (202) 395–6880.

Proposal: Evaluation of the Housing Voucher Demonstration
Office: Policy Development and Research
Description of The Need For The Information and Its Proposed Use: Data on outcomes for applicants to the Section 8 Certificate Program and Voucher Program are needed to evaluate the Voucher Program. Those affected will be program applicants and local PHA staff. PHAs will be compensated for costs
Form Number: None
Respondents: Individuals or Households and Non-Profit Institutions
Frequency of Response: On Occasion
Estimated Burden Hours: 12,163
Status: Extension
Contact: David Einhorn, HUD, (202) 755–5574, John Allison, OMB, (202) 395–6880.

Proposal: Owner's Certification of Compliance with HUD's Tenant Eligibility and Rent Procedures (Basic Forms and Worksheets)
Office: Housing
Description of The Need For The Information And Its Proposed Use: The information is needed to determine tenant eligibility, to compute tenant annual rents for those tenants occupying HUD subsidized housing units, and to collect information on citizenship/alien status to effect program utilization and need
Form Number: HUD–50059/a/b/c/d/e/f/g/h/k
Respondents: Individuals of Households and Businesses or Other For-Profit
Frequency of Response: Annually
Estimated Burden Hours: 1,881,756
Status: Reinstatement
Contact: Judith L. Lemeshewsky, HUD, (202) 426–3944; John Allison, OMB, (202) 395–6880.

Authority: Sec. 3507 of the Paperwork Reduction Act, 44 U.S.C. 3507; Sec. 7(d) of the Department of Housing and Urban Development Act, 42 U.S.C. 3535(d).

Dated: April 27, 1987.

John T. Murphy,

Director, Information Policy and Management Division.

[FR Doc. 87–10314 Filed 5–5–87; 8:45 am]

BILLING CODE 4210–01–M

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[AK–060–07–4410–08]

Description of Alternatives To Be Considered for the Resource Management Plan for the Utility Corridor and Adjacent Lands, Arctic District Office, AK

Supplement to the Notice of Intent to prepare a resource management plan (RMP) and environmental impact statement (EIS) for the Utility Corridor and adjacent lands, Arctic District Office, Alaska.

The Notice of Intent published January 16, 1986, [51 FR 2440 (1986)] did not identify the alternatives to be considered in detail. The alternatives have now been identified; the following is a brief description of those alternatives:

"No Action" Alternative: This alternative is a continuation of present management practices. It proposes a continuation of present management throughout the planning area.

Alternative One: This alternative emphasizes the recreational opportunities within the Utility Corridor. The proposed management actions for this alternative outline a program of intensive management toward the development of recreational opportunities while also providing for energy transportation which is the primary purpose of the corridor.

Alternative Two: This alternative represents a program of environmental protection and enhancement. It reflects these goals by limiting actions which would have negative environmental effects on BLM managed lands and on adjacent Conservation System Units. The proposed actions also emphasize wilderness recommendations.

Alternative Three: This alternative focuses on the development of economic opportunities in the planning area. It opens as much public land as possible to the operation of the mining and mineral leasing laws as well as providing at least as many opportunities for development of recreational facilities as is found in Alternative One.

Alternative Four: This alternative can be described as a land disposal option. All public land orders withdrawing

Utility Corridor lands from state selection would be lifted under this alternative. The BLM would not take any other major action and would wait for an appropriate period of time for selections in the area to take plance. Once a stable pattern of federal land ownership emerged, the BLM would begin a new land use plan to address the public needs. Interim management would follow the proposed actions described under the "no action" alternative.

FOR FURTHER INFORMATION CONTACT: Dave Ruppert, Project Manager, Arctic District Office, Bureau of Land Management, 1541 Gaffney Road, Fairbanks, Alaska 99703, Tel: (907) 356–5182.

Dated: April 21, 1987.

M. Thomas Dean,

Manager, Arctic District.

[FR Doc. 87–10292 Filed 5–5–87; 8:45 am]

BILLING CODE 4310–84–M

[WY–920–07–411–15; W–88378]

Oil and Gas Lease; Proposed Reinstatement of Terminated; Carbon County, WY

April 29, 1987.

Pursuant to the provisions of Pub. L. 97–451, 96 Stat. 2462–2466, and Regulation 43 CFR 3108.2–3(a) and (b)(1), a petition for reinstatement of oil and gas lease W–88378 for lands in Carbon County, Wyoming, was timely filed and was accompanied by all the required rentals accruing from the date of termination.

The lessee has agreed to the amended lease terms for rentals and royalties at rates of $5 per acre, or fraction thereof, per year and 16⅔ percent, respectively.

The lessee has paid the required $500 administrative fee and $106.25 to reimburse the Department for the cost of this **Federal Register** notice. The lessee has met all the requirements for reinstatement of the lease as set out in section 31 (d) and (e) of the Mineral Lands Leasing Act of 1920 (30 U.S.C. 188), and the Bureau of Land Management is proposing to reinstate lease W–88378 effective August 1, 1986, subject to the original terms and conditions of the lease and the increased rental and royalty rates cited above.

Andrew L. Tarshis,

Chief, Leasing Section.

[FR Doc. 87–10295 Filed 5–5–87; 8:45 am]

BILLING CODE 4310–22–M

[WY–920–07–4111–15; W–53842]

Oil and Gas Lease; Proposed Reinstatement of Terminated; Uinta County, WY

April 29, 1987.

Pursuant to the provisions of Pub. L. 97–451, 96 Stat. 2462–2466, and Regulation 43 CFR 3108.2–3(a) and (b)(1), a petition for reinstatement of oil and gas lease W–53842 for lands in Uinta County, Wyoming, was timely filed and was accompanied by all the required rentals accruing from the date of termination.

The lessee has agreed to the amended lease terms for rentals and royalties at rates of $5 per acre, or fraction thereof, per year and 16⅔ percent, respectively.

The lessee has paid the required $500 administrative fee and $125 to reimburse the Department for the cost of this **Federal Register** notice. The lessee has met all the requirements for reinstatement of the lease as set out in section 31 (d) and (e) of the Mineral Lands Leasing Act of 1920 (30 U.S.C. 188), and the Bureau of Land Management is proposing to reinstate lease W–53842 effective March 1, 1987, subject to the original terms and conditions of the lease and the increased rental and royalty rates cited above.

Andrew L. Tarshis,

Chief, Leasing Section.

[FR Doc. 87–10296 Filed 5–5–87; 8:45 am]

BILLING CODE 4310–22–M

[NV–930–07–4212–22]

Survey Plat Filings; Nevada

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of filing of plats of survey.

SUMMARY: The purpose of this notice is to inform the public and interested State and local government officials of the latest filing of Plats of Survey in Nevada.

DATES: Filings were effective at 10 a.m., on April 13, 1987.

FOR FURTHER INFORMATION CONTACT: Lacel Bland, Chief, Branch of Cadastral Survey, Nevada State Office, Bureau of Land Management, 850 Harvard Way, P.O. Box 12000, Reno, Nevada 89520, (702) 784–5484.

SUPPLEMENTARY INFORMATION: The Plats of Survey of lands described below were officially filed at the Nevada State Office, Reno, Nevada.

Mount Diablo Meridian, Nevada

T. 36 N., R. 50 E.—Dependent Resurvey
T. 37 N., R. 51 E.—Dependent Resurvey
T. 38 N., R. 51 E.—Dependent Resurvey
T. 38 N., R. 52 E.—Dependent Resurvey

These surveys were accepted on April 13, 1987, and were executed to meet certain administrative needs of the Bureau.

Dated: April 20, 1987.

Robert G. Steele,

Deputy State Director, Operations.

[FR Doc. 87–10291 Filed 5–5–87; 8:45 am]

BILLING CODE 4310–HC–M

[OR–38296; OR–943–07–4220–11; GP–07–178]

Oregon; Proposed Withdrawal and Opportunity for Public Meeting

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice.

SUMMARY: The Bureau of Land Management proposes to withdraw 122.59 acres of public land for the Wild Horse Administrative Site. This notice closes the land for up to 2 years from surface entry and mining. The land will remain open to mineral leasing.

DATE: Comments and requests for a public meeting should be received by August 4, 1987.

ADDRESS: Comments and meeting requests should be sent to: Oregon State Director, Bureau of Land Management, P.O. Box 2965, Portland, Oregon 97208.

FOR FURTHER INFORMATION CONTACT: Champ Vaughan, BLM Oregon State Office, 503–231–6905.

On April 24, 1987, a petition was approved allowing the Bureau of Land Management to file an application to withdraw the following described public land from settlement, sale, location, or entry under the general public land laws, including the mining laws, subject to valid existing rights:

Willamette Meridian

Wild Horse Administrative Site

T. 24 S., R. 30 E.,
Sec. 6, lot 2, E½ of lot 3, NE¼ of lot 4, W½SE¼NW¼, W½NE¼SW¼ and NW¼SE¼SW¼.

The area described contains 122.59 acres in Harney County.

The purpose of the proposed withdrawal is to protect the Wild Horse Administrative Site which is located approximately 8 miles southwest of Burns, Oregon.

For a period of 90 days from the date of publication of this notice, all persons who wish to submit comments, suggestions, or objections in connection with the proposed withdrawal may

present their views in writing to the Oregon State Director of the Bureau of Land Management.

Notice is hereby given that an opportunity for a public meeting is afforded in connection with the proposed withdrawal. All interested persons who desire a public meeting for the purpose of being heard on the proposed withdrawal must submit a written request to the Oregon State Director within 90 days from the date of publication of this notice. Upon determination by the authorized officer that a public meeting will be held, a notice of the time and place will be published in the **Federal Register** at least 30 days before the scheduled date of the meeting.

The application will be processed in accordance with the regulations set forth in 43 CFR Part 2300.

For a period of 2 years from the date of publication of this notice in the **Federal Register**, the land will be segregated as specified above unless the application is denied or cancelled or the withdrawal is approved prior to that date. The temporary uses which will be permitted during this segregative period are leases, licenses, permits, and disposal of mineral or vegetative resources other than under the mining laws.

Dated: April 28, 1987.

B. Lavelle Black,

Chief, Branch of Lands and Minerals Operations.

[FR Doc. 87-10293 Filed 5-5-87; 8:45 am]

BILLING CODE 4310-33-M

[OR-36222; OR-943-07-4220-11: GP-07-177]

Oregon; Proposed Withdrawal and Opportunity for Public Meeting

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice.

SUMMARY: The Bureau of Land Management proposes to withdraw 5.00 acres of public land for the Fields Administrative Site. This notice closes the land for up to 2 years from surface entry and mining. The land will remain open to mineral leasing.

DATE: Comments and requests for a public meeting should be received by August 4, 1987.

ADDRESS: Comments and meeting requests should be sent to: Oregon State Director, Bureau of Land Management, P.O. Box 2965, Portland, Oregon 97208.

FOR FURTHER INFORMATION CONTACT: Champ Vaughan, BLM Oregon State Office 503-231-6905.

On April 24, 1987, a petition was approved allowing the Bureau of Land Management to file an application to withdraw the following described public land from settlement, sale, location, or entry under the general public land laws, including the mining laws, subject to valid existing rights:

Willamette Meridian

Fields Administrative Site

T. 38 S., R. 34 E.,
Sec. 23, E½E½SW¼NE¼NE¼ and W½W½SE¼NE¼NE¼.

The area described contains 5.00 acres in Harney County.

The purpose of the proposed withdrawal is to protect the Fields Administrative Site which is located approximately 95 miles south by southeast of Burns, Oregon.

For a period of 90 days from the date of publication of this notice, all persons who wish to submit comments, suggestions, or objections in connection with the proposed withdrawal may present their views in writing to the Oregon State Director of the Bureau of Land Management.

Notice is hereby given that an opportunity for a public meeting is afforded in connection with the proposed withdrawal. All interested persons who desire a public meeting for the purpose of being heard on the proposed withdrawal must submit a written request to the Oregon State Director within 90 days from the date of publication of this notice. Upon determination by the authorized officer that a public meeting will be held, a notice of the time and place will be published in the **Federal Register** at least 30 days before the scheduled date of the meeting.

The application will be processed in accordance with the regulations set forth in 43 CFR Part 2300.

For a period of 2 years from the date of publication of this notice in the **Federal Register**, the land will be segregated as specified above unless the application is denied or cancelled or the withdrawal is approved prior to that date. The temporary uses which will be permitted during this segregative period are leases, licenses, permits, and disposal of mineral or vegetative resources other than under the mining laws.

Dated: April 28, 1987.

B. Lavelle Black,

Chief, Branch of Lands and Minerals Operations.

[FR Doc. 87-10294 Filed 5-5-87; 8:45 am]

BILLING CODE 4310-33-M

Minerals Management Service

Outer Continental Shelf; Development Operations Coordination; Exxon Co., U.S.A.

AGENCY: Minerals Management Service, Interior.

ACTION: Notice of the receipt of a proposed Development Operations Coordination Document (DOCD).

SUMMARY: Notice is hereby given that Exxon Company, U.S.A. has submitted a DOCD describing the activities it proposes to conduct on Lease OCS 016, Block 31, West Delta Area, offshore Louisiana. Proposed plans for the above area provide for the development and production of hydrocarbons with support activities to be conducted from an onshore base located at Grand Isle, Louisiana.

DATE: The subject DOCD was deemed submitted on April 27, 1987.

ADDRESS: A copy of the subject DOCD is available for public review at the Office of the Regional Director, Gulf of Mexico OCS Region, Minerals Management Service, 1201 Elmwood Park Boulevard, Room 114, New Orleans, Louisiana (Office Hours: 9 a.m. to 3:30 p.m., Monday through Friday).

FOR FURTHER INFORMATION CONTACT: Michael J. Tolbert; Minerals Management Service, Gulf of Mexico OCS Region, Field Operations, Plans, Platform and Pipeline Section, Exploration/Development Plans Unit; Telephone (504) 736-2867.

SUPPLEMENTARY INFORMATION: The purpose of this Notice is to inform the public, pursuant to section. 25 of the OCS Lands Act Amendments of 1978, that the Mineral Management Service is considering approval of the DOCD and that it is available for public review.

Revised rules governing practices and procedures under which the Minerals Management Service makes information contained in DOCDs available to affected States, executives of affected local governments, and other interested parties became effective December 13, 1979 (44 FR 53685). Those practices and procedures are set out in revised § 250.34 of Title 30 of the CFR.

Dated: April 29, 1987.

J. Rogers Pearcy,

Regional Director, Gulf of Mexico OCS Region.

[FR Doc. 87-10311 Filed 5-5-87; 8:45 am]

BILLING CODE 4310-MR-M

National Park Service

Golden Gate National Recreation Area and Point Reyes National Seashore Advisory Commission; Meeting

Notice is hereby given in accordance with the Federal Advisory Committee Act that a meeting of the Golden Gate National Recreation Area and Point Reyes National Seashore Advisory Commission will be held at 10:30 a.m. (PDT) on Saturday, June 6, 1987 at the West Marin School, Point Reyes Station, California.

The Advisory Commission was established by Pub. L. 92–589 to provide for the free exchange of ideas between the National Park Service and the public and to facilitate the solicitation of advice of other counsel from members of the public on problems pertinent to the National Park Service systems in Marin, San Francisco and San Mateo Counties.

Members of the Commission are as follows:

Mr. Frank Boerger, Chairman
Ms. Amy Meyer, Vice Chair
Mr. Ernest Ayala
Mr. Richard Bartke
Dr. Howard Cogswell
Brig. Gen. John Crowley, USA (ret)
Mr. Margot Patterson Doss
Mr. Neil D. Eisenberg
Mr. Jerry Friedman
Mr. Steve Jeong
Ms. Daphne Greene
Ms. Gimmy Park Li
Mr. Gary Pinkston
Mr. Merritt Robinson
Mr. R.H. Sciaroni
Mr. John J. Spring
Dr. Edgar Wayburn
Mr. Joseph Willians

The main agenda items are the pony pasture permit at Stinson Beach, the status of the Pierce Point Ranch, reports on erosion control work on the Tomales Point Trail and other erosion projects, as well as other management issues in the Point Reyes National Seashore (bicycle trails, tule elk managment).

The meeting is open to the public. Persons wishing to receive further information on this meeting or who wish to submit written statements may contact General Superintendent Brian O'Neill, Golden Gate National Recreation Area, Building 201, Fort Mason, San Francisco, California 94123.

This meeting will be recorded for documentation and transcribed for dissemination. Minutes of the meeting will be available to the public within sixty days. For copies of the minutes contact the office of the Staff Assistant, Golden Gate National Recreation Area, Building 201, Fort Mason, San Francisco, California 94123.

Dated: April 28, 1987.

Howard Chapman,

Regional Director, Western Region.

[FR Doc. 87–10306 Filed 5–5–87; 8:45 am]

BILLING CODE 4310–70–M

Office of Surface Mining Reclamation and Enforcement

Information Collection Submitted to the Office of Management and Budget for Review Under the Paperwork Reduction Act

The proposal for the collection of information listed below has been submitted to the Office of Management and Budget for approval under the provisions of the Paperwork Reduction Act (44 U.S.C. Chapter 35). Copies of the proposed collection of information and related forms and explantory material may be obtained by contacting the Bureau's clearance officer at the phone number listed below. Comments and suggestions on the requirement should be made within 30 days directly to the Bureau clearance officer and to the Office of Management and Budget Interior Department Desk Officer, Washington, DC 20503, telephone 202–395–7340.

Title: Permit Applications—Minimum Requirements for Legal, Financial, Compliance, and Related Information 30 CFR Part 778

Abstract: Section 507(b) Pub. L. 95–87 provides that persons conducting coal mining activities submit to the regulatory authority all revelant information submit to the regulatory authority all revelant information regarding ownership and control of the property to be affected, their compliance status and history. This information is used to ensure all legal, financial and compliance requirements are satisfied prior to issuance or denial of a permit.

Bureau Form Number: None
Frequency: Every five years
Description of Respondents: Coal Mine Operators
Annual Responses: 37,843
Annual Burden Hours: 152,863
Bureau clearance officer: Darlene Grose-Boyd (202) 343–5447

Dated: April 14, 1987.

Carson W. Clup,

Assistant Director, Budget and Administration.

[FR Doc. 87–10312 Filed 5–5–87; 8:45 am]

BILLING CODE 4310–05–M

INTERNATIONAL TRADE COMMISSION

Agency Forms Submitted for OMB Review

AGENCY: International Trade Commission.

Action

In accordance with the provisions of the Paperwork Reduction Act of 1980 (44 U.S.C. Chapter 35), the Commission has submitted a proposal for the collection of information to the Office of Management and Budget (OMB) for review.

Purpose of Information Collection

The proposed information collection is for use by the Commission in connection with investigation No. 332–244, The Use and Economic Impact of TSUS Items 806.30 and 807.00, instituted under the authority of section 332 of the Tariff Act of 1930 (19 U.S.C. 1332).

Summary of Proposals

(1) Number of forms submitted: One.

(2) Title of forms: Questionnaire Regarding the Use of TSUS Items 806.30 and 807.00.

(3) Type of request: New.

(4) Frequency of use: Nonrecurring.

(5) Description of respondents: Firms which (a) import articles containing U.S.-origin metal or U.S.-made components, (b) export U.S.-origin metal or components for foreign processing and/or assembly prior to importation, (c) use U.S.-origin metal or U.S.-made components in foreign manufacturing operations, and/or (d) manufacture goods which compete with articles imported under TSUS items 806.30 and/or 807.00.

(6) Estimated number of respondents: 1,600.

(7) Estimated total number of hours to complete the forms: 96,000.

(8) Information obtained from the forms that qualifies as confidential business information will be so treated by the Commission and not disclosed in a manner that would reveal the individual operations of a firm.

Additional Information or Comment

Copies of the proposed form and supporting documents may be obtained from Ralph Watkins (tel. no. 202–724–0976) or Josephine Spalding (tel. no. 202–724–0980). Comments about the proposal should be directed to the Office of Information and Regulatory Affairs, Office of Management and Budget, New Executive Office Building, Washington, DC 20503, Attention: Francine Picoult, Desk Officer for U.S. International

Trade Commission. Any comments should be specific, indicating which part of the questionnaire or study plan is objectionable, describing the problem in detail, and including specific suggested revisions or language changes.

Submission of Comments

Comments should be submitted to OMB within two weeks of the date this notice appears in the **Federal Register.**

If you are unable to submit them promptly you should advise OMB within the two week period of your intent to comment on the proposal. Ms. Picoult's telephone number is 202–395–7340. Copies of any comments should be provided to Charles Ervin (United States International Trade Commission, 701 E Street NW., Washington, DC 20436).

Hearing impaired individuals are advised that information on this matter can be obtained by contacting our TDD terminal on (202) 724–0002.

Issued: May 1, 1987.

By order of the Commission.

Kennth R. Mason,

Secretary.

[FR Doc. 87–10302 Filed 5–5–87; 8:45 am]

BILLING CODE 7020–02–M

[Investigation No. 337–TA–259]

Certain Battery-Powered Smoke Detectors; Extension of Deadline for Commission Decision on Whether or not To Review Initial Determination

AGENCY: International Trade Commission.

ACTION: Extension of time for Commission decision whether or not to review initial determination.

SUMMARY: Notice is hereby given that the date by which the Commission must decide whether or not to review the presiding administrative law judge's (ALJ's) initial determination (ID) (Order No. 32) granting in part respondents' motion for sanctions against complainants for breach of protective order has been extended from April 28, 1987, until May 29, 1987.

FOR FURTHER INFORMATION CONTACT: Mitchell W. Dale, Esq. (tel. 202–523–1641), or Jean H. Jackson, Esq. (tel. 202–523–1693), Office of General Counsel, U.S. International Trade Commission.

SUPPLEMENTARY INFORMATION: On March 27, 1987, the ALJ issued an ID in the above-captioned investigation ordering that, because of complainants' counsel's inadvertent breach of a Commission protective order, counsel would not be allowed to enter his appearance on the record, examine witnesses, make oral arguments, render objections, or otherwise participate in the oral conduct of the evidentiary hearing in this investigation. Further, the ALJ recommended that the Commission publish an official reprimand, noting counsel's violation of the protective order and censuring him for his actions.

The Commission has determined to extend the time by which it must determine whether or not to review the ALJ's ID until May 29, 1987, in light of the parties' filing on April 10, 1987, of a Joint Motion to Terminate the Investigation based upon complainants' notice of withdrawal of complaint.

Authority for the Commission's action is contained in 19 CFR 210.54(b)(1). Copies of the nonconfidential version of the ID and all other nonconfidential documents filed in connection therewith are available for inspection during official business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary, U.S. International Trade Commission, 701 E Street NW., Washington, DC 20436, telephone 202–523–0161. Hearing-impaired individuals are advised that information on this matter can be obtained by contacting the Commission's TDD terminal on 202–724–0002.

Issued: April 29, 1987.

By order of the Commission.

Kenneth R. Mason,

Secretary.

[FR Doc. 87–10304 Filed 5–5–87; 8:45 am]

BILLING CODE 7020–02–M

[TA–503(a)–14 and 332–246]

Probable Economic Effect of Conversion of the U.S. Generalized System of Preferences to the Nomenclature Structure of the Proposed Harmonized System U.S. Tariff Schedule

AGENCY: International Trade Commission.

ACTION: Change in scope of investigation.

SUMMARY: In the subject investigation, the Commission is examining various aspects of the conversion of the U.S. Generalized System of Preferences (GSP) to the new Harmonized System (HS) of tariff nomenclature in order to provide advice to the U.S. Trade Representative (USTR) on the probable effects of the conversion. In a request dated April 10, 1987, the USTR notified the Commission of additional HS articles being considered for (1) designation as eligible articles for purposes of the GSP (see Annex I) or (2) a waiver of the application of section 504(c) of the Trade Act of 1974 (see Annex II). As a result of the USTR request the Commission has expanded the scope of the subject investigation to include the provisions of probable effects advice on the additional articles. The Commission's initial notice of investigation appeared in the **Federal Register** of March 19, 1987 (52 FR 8653).

EFFECTIVE DATE: April 24, 1987.

Written Submission

Interested persons are invited to submit written statements concerning the additional items covered by the investigation. Written statements should be received by the close of business on May 15, 1987. Statements should provide a detailed description of the product or products of concern (including the proposed HS subheading and the current TSUS category) and detailed information on the impact of the change of particular concern. Commercial or financial information which a submitter desires the Commission to treat as confidential must be submitted on separate sheets of paper, each clearly marked "Confidential Business Information" at the top. All submissions requesting confidential treatment must conform with the requirements of § 201.6 of the Commission's *Rules of Practice and Procedure* (19 CFR 201.6). All written submissions, except for confidential business information, will be made available for inspection by interested persons. All submissions should be addressed to the Secretary at the Commission's office in Washington, DC. Hearing-impaired individuals are advised that information on this matter can be obtained by contacting our TDD terminal on (202) 724–0002.

Issued: April 24, 1987.

By order of the Commission.

Kenneth R. Mason,

Secretary.

Annex I.—Additional HS Items Proposed for GSP Eligibility

0812.9090	6302.5900
0813.4090	6302.9200
2401.1080	6302.9900
2401.2040	6304.9100
2805.2210 [1]	6304.9920
2917.1917 [1]	6307.9080
3207.4050	6908.1050
4420.9060	6911.1039
6116.1000	6912.0044
6216.0020	7312.1090
6302.4010	8111.0060
6302.4020	8112.4060
6302.5130	8540.1200
6302.5140	8541.4080
6302.5210	9107.0040
6302.5220	9502.9930
6302.5300	9608.1000

[1] Proposed HS Subheading "break-outs" are as follows:

(1) 2805.22 Strontium and barium:		
2805.22.10	Strontium, kg	3.7% Free (A,E) 25%
2805.22.20	Barium, kg	3.7% Free (E) 25%
(2) Fumaric acid:		
2917.19.15	Derived in whole or in part from aromatic hydrocarbons, kg.	20% Free (E) 15.4¢/kg+87%
2917.19.17	Other,kg	4.2% Free (A,E) 25%

Annex II.—Additional Items Proposed for Waiver of Competitive-Need Limits by Country

3923.2100	Hong Kong
3925.9000	Hong Kong
3926.2020	Hong Kong, Taiwan
4016.9950	Hong Kong
4420.1000	Taiwan
5903.1020	Colombia
6911.9000	Taiwan
6912.0050	Taiwan
8472.9080	Singapore
8473.2900	Singapore
8473.4000	Singapore
8512.1040	Malaysia, Singapore
8512.9020	Malaysia, Singapore
8517.9030	Hong Kong
8523.1200	Hong Kong
8523.2000	Hong Kong
8523.9000	Hong Kong
8525.1080	Singapore
8527.9080	Singapore
8529.9050	Singapore
8531.1000	Singapore
8531.8000	Singapore
8531.9000	Singapore, Malaysia
8535.1000	Hong Kong, Singapore
8535.2100	Hong Kong, Singapore
8535.2900	Hong Kong, Singapore
8535.3000	Hong Kong, Singapore
8535.4000	Hong Kong, Singapore
8535.9000	Hong Kong, Singapore
8536.1000	Hong Kong, Singapore
8536.2000	Hong Kong, Singapore
8536.3000	Hong Kong, Singapore
8536.4100	Hong Kong, Singapore
8536.4900	Hong Kong, Singapore
8536.6100	Hong Kong, Singapore
8536.9000	Hong Kong, Singapore
8537.1000	Hong Kong, Singapore
8537.2000	Hong Kong, Singapore
8538.1000	Hong Kong, Singapore
8538.9000	Hong Kong, Singapore
8539.9000	Thailand
8543.2000	Thailand
8543.3000	Thailand
9405.1080	Thailand
9405.2080	Thailand
9405.4080	Thailand
9405.6060	Hong Kong
9405.9200	Hong Kong
9503.1000	Republic of Korea, Taiwan
9503.7080	Hong Kong, Republic of Korea, Macau, Taiwan
9503.8000	Hong Kong, Republic of Korea, Taiwan
9503.8010	Hong Kong, Republic of Korea, Taiwan
9503.8020	Hong Kong, Republic of Korea, Taiwan
9503.9040	Hong Kong
9505.9040	Hong Kong
9613.8020	Thailand
9613.9040	Thailand

[FR Doc. 87-10301 Filed 5-5-87; 8:45 am]
BILLING CODE 7020-02-M

Bicycle Tires and Tubes From the Republic of Korea; Request for Comments Concerning the Institution of a Section 751(b) Review Investigation

AGENCY: United States International Trade Commission.

ACTION: Request for comments regarding the institution of a section 751(b) review investigation concerning the Commission's affirmative determination in investigation No. AA1921-193, Bicycle Tires and Tubes from the Republic of Korea.

SUMMARY: The Commission invites comments from the public on whether changed circumstances exist sufficient to warrant the institution of an investigation pursuant to section 751(b) of the Tariff Act of 1930 (19 U.S.C. 1675(b)) to review the Commission's affirmative determination in investigation No. AA1921-193, regarding bicycle tires and tubes from the Republic of Korea (Korea). The purpose of the proposed 751(b) review investigation, if instituted, would be to determine whether an industry in the United States would be materially injured, or would be threatened with material injury, or the establishment of an industry in the United States would be materially retarded, by reason of imports of bicycle tires and tubes from Korea if the antidumping order regarding such merchandise were to be modified or revoked. Bicycle tires and tubes are provided for in items 772.48 and 772.57, respectively, of the Tariff Schedules of the United States.

FOR FURTHER INFORMATION CONTACT: Vera Libeau (202-523-0368), Office of Investigations, U.S. International Trade Commission, 701 E Street NW., Washington, DC 20436. Hearing-impaired individuals are advised that information on this matter can be obtained by contacting the Commission's TDD terminal on 202-724-0002.

SUPPLEMENTARY INFORMATION: On April 4, 1979, the Commission published in the **Federal Register** (44 FR 20308) its determination that an industry in the United States was being or was likely to be injured by reason of the importation of bicycle tires and tubes from Korea which the Department of Treasury had determined were being, or were likely to be sold at less than fair value (LTFV) within the meaning of the Antidumping Act, 1921, as amended (19 U.S.C. 160(a)). Accordingly, on April 13, 1979, a dumping finding with respect to bicycle tires and tubes from Korea was published in the **Federal Register** as Treasury Decision 79-115 (44 FR 22051).

On April 28, 1987, the Commission received a request, pursuant to section 751(b) of the Act, to review its affirmative determination in investigation No. AA1921-193. This request is filed by counsel on behalf of Korea Inoue Kasai Co., Ltd. (KIK), a Korean manufacturer and exporter of bicycle tires and tubes.

Written Comments Requested

Pursuant to § 207.45(b)(2) of the Commission's Rules of Practice and Procedure (19 CFR 207.45(b)(2)), the Commission requests comments concerning whether the following alleged changed circumstances are sufficient to warrant institution of a review investigation: Carlisle Tire & Rubber Co., the sole U.S. producer of bicycle tires and tubes at the time of the antidumping investigation, has terminated its production of such merchandise effective February 27, 1987. KIK is not aware of any other domestic producer of these products. Consequently, no U.S. industry remains to be materially injured or threatened with injury by reason of imports of the subject merchandise.

On April 29, 1987, Carlisle informed the Commission that it will interpose no objection to the revocation of the dumping finding with respect to bicycle tires and tubes from Korea.

Written Submissions

In accordance with § 201.8 of the Commission's rules (19 CFR 201.8), the signed original and 14 copies of all written submissions must be filed with the Secretary to the Commission, 701 E Street NW., Washington, DC 20436. All comments must be filed no later than 30 days after the date of publication of this notice in the **Federal Register**. Any person desiring to submit a document (or portion thereof) to the Commission in confidence must request business confidential treatment under § 201.6 of the Commission's rules (19 CFR 201.6). Such requests should be directed to the Secretary to the Commission and must include a full statement of the reasons

why the Commission should grant such treatment. Each sheet must be clearly marked at the top "Confidential Business Data." The Commission will either accept the submission in confidence or return it. All nonconfidential written submissions will be available for public inspection in the Office of the Secretary.

Copies of the request for review of the injury determination and any other documents in this matter are available for public inspection during regular business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary to the Commission; telephone 202–523–0161.

Issued: May 4, 1987.

By order of the Commission.

Kenneth R. Mason,

Secretary.

[FR Doc. 87–10386 Filed 5–5–87; 8:45 am]

BILLING CODE 7020–02–M

INTERSTATE COMMERCE COMMISSION

[Docket No. AB–19 (Sub-No. 124X)]

The Baltimore and Ohio Railroad Co.; Abandonment Exemption; Ohio County, WV and Washington County, PA

AGENCY: Interstate Commerce Commission.

ACTION: Notice of exemption.

SUMMARY: The Commission exempts from prior approval under 49 U.S.C. 10903, *et seq.*, the abandonment by The Baltimore and Ohio Railroad Company of 29.59 miles of track in Ohio County, WV and Washington County, PA subject to public use conditions and standard labor protection.

DATES: This exemption is effective on June 5, 1987. Petitions to stay must be filed on May 21, 1987, and petitions for reconsideration must be filed by June 1, 1987.

ADDRESSES: Send pleadings referring to Docket No. AB–19 (Sub-No. 124X) to:

(1) Office of the Secretary, Case Control Branch, Interstate Commerce Commission, Washington, DC 20423

(2) Peter J. Shudtz, 100 N. Charles Street, Baltimore, MD 21201

FOR FURTHER INFORMATION CONTACT: Joseph H. Dettmar, (202) 275–7245.

SUPPLEMENTARY INFORMATION: Additional information is contained in the Commission's decision. To purchase a copy of the full decision, write to T.S. InfoSystems, Inc., Room 2229, Interstate Commerce Commission Building, Washington, DC 20423, or call 289–4357 (DC Metropolitan area), or toll-free (800) 424–5403.

Decided: April 17, 1987.

By the Commission, Chairman Gradison, Vice Chairman Lamboley, Commissioners Sterrett, Andre, and Simmons. Commissioner Simmons dissented with a separate expression. Vice Chairman Lamboley dissented and will submit a separate expression at a later date.

Noreta R. McGee,

Secretary.

[FR Doc. 87–10240 Filed 5–5–87; 8:45 am]

BILLING CODE 7035–01–M

[Docket No. AB–19 (Sub-No. 129X)]

The Baltimore and Ohio Railroad Co.; Exemption; Abandonment in Taylor and Barbour Counties, WV

AGENCY: Interstate Commerce Commission.

ACTION: Notice of exemption.

SUMMARY: The Interstate Commerce Commission exempts from the prior approval requirements of 49 U.S.C. 10903, *et seq.*, the abandonment by the Baltimore and Ohio Railroad Company of approximately 5.45 miles of track in the Taylor and Barbour Counties, WV subject to standard labor protective conditions.

DATES: This exemption will be effective on June 5, 1987. Petitions to stay must be filed by May 18, 1987. Petitions for reconsideration must be filed by May 26, 1987.

ADDRESSES: Send pleadings referring to Docket No. AB–19 (Sub-No. 129X) to:

(1) Office of the Secretary, Case Control Branch, Interstate Commerce Commission, Washington, DC 20423

(2) Petitioners' representative: Peter J. Shudtz, 100 North Charles Street, Baltimore, MD 21201

FOR FURTHER INFORMATION CONTACT: Joseph H. Dettmar, (202) 275–7245.

SUPPLEMENTARY INFORMATION: Additional information is contained in the Commission's decision. To purchase a copy of the full decision write to: T.S. InfoSystems, Inc., Room 2229, Interstate Commerce Commission Building, Washington, DC 20423, or call 289–4357 (DC Metropolitan area).

Decided: April 21, 1987.

By the Commission, Chairman Gradison, Vice Chairman Lamboley, Commissioners Sterrett, Andre, and Simmons. Vice Chairman Lamboley concurred in the result. Commissioner Simmons dissented.

Noreta R. McGee,

Secretary.

[FR Doc. 87–10241 Filed 5–5–87; 8:45 am]

BILLING CODE 7035–01–M

DEPARTMENT OF JUSTICE

Announcement of Availability of Funding for Cooperative Agreements; Shelter Care and other Related Services to Alien Minors; Extension of Closing Date

AGENCY: Community Relations Service (CRS), Department of Justice.

ACTION: Availability of funding for Cooperative Agreements to support programs which provide shelter care and other related child welfare services to alien minors detained in the custody of the United States Department of Justice, Immigration and Naturalization Service; extension of closing date.

SUMMARY: This announcement extends the closing date of the Community Relations Service Notice published in the April 29, 1987, edition of the **Federal Register.** The announcement begins on page 15569 of the above referenced edition.

DATE: The closing date is hereby extended to 5:00 p.m., Friday, June 19, 1987.

Corrections relating to the weighted evaluation criteria are contained in the Corrections Section of this issue.

Dated: May 4, 1987.

Wallace P. Warfield,

Acting Director, Community Relations Service.

[FR Doc. 87–10345 Filed 5–5–87; 8:45 am]

BILLING CODE 4410–01–M

Bureau of Justice Assistance

Criminal Justice Discretionary Grants

AGENCY: Bureau of Justice Assistance, Department of Justice, Benjamin H. Renshaw, Acting Director.

ACTION: Final notice.

SUMMARY: The Bureau of Justice Assistance is publishing a final notice to implement the criminal justice discretionary grant program authorized by the Justice Assistance Act of 1984 Pub. L. 98–473 (October 12, 1984), 42 U.S.C. 3711 et seq. This notice describes procedures and requirements for applying for and administering discretionary grant funds.

EFFECTIVE DATE: This notice is effective on May 6, 1987.

FOR FURTHER INFORMATION CONTACT: For general questions about the priorities and range of discretionary grant problems contact James C. Swain, Director, Discretionary Grant Programs Division, Bureau of Justice Assistance, 633 Indiana Avenue NW., Washington,

DC 20531, (202) 272–4605. For information on particular programs, the program contact person is indicated in each program description.

ADDRESS: All concept papers (original plus two copies) should be addressed to: Bureau of Justice Assistance, 633 Indiana Avenue NW., Washington, DC 20531.

All final applications (original plus two copies) should be addressed to: Control Desk, Office of Comptroller, Room 948, Bureau of Justice Assistance, Office of Justice Programs, 633 Indiana Avenue NW., Washington, DC 20531.

SUPPLEMENTARY INFORMATION: The Justice Assistance Act of 1984 established the Bureau of Justice Assistance within the Office of Justice Programs. The Act authorizes the award of discretionary grants to public and nonprofit agencies. Four purposes are specified for which discretionary grants can be made: (1) Demonstration programs; (2) educational and training programs for criminal justice personnel; (3) technical assistance to states and local governments; and (4) national or multi-state projects.

The Discretionary grant program is intended to complement and enhance the Criminal Justice Block Grant Program administered by the Bureau of Justice pursuant to Part D of the Act. These later grants are designed to carry out state and local programs which exhibit a high probability of improving the criminal justice system, with emphasis on violent crime and serious offenders. The large investment of discretionary funds in technical assistance and training is intended as a means of quality control in a program carefully designed to eliminate red tape for the Block Grant Program. States agree to apply the Block grant funding to proven program concepts such as are found in career criminal projects. BJA releases the funding based on this pledge and thus projects can quickly commence. It is then the availability of technical assistance and training for all projects the helps the states fulfill their pledge and insure related fashion, the BJA investment in demonstration projects which are in turn carefully evaluated insures a steady stream of future quality candidates for block grant funding.

Of the total funds appropriated for state and local assistance 20 percent is reserved for the discretionary grant program. Total FY 1987 and unawarded FY 1986 funds available under this announcement are approximately $9 million.

The Bureau published in the **Federal Register**, Vol. 52 No. 28 and solicited public comment on proposed discretionary grant regulations on February 11, 1987. Approximately 120 individuals and organizations provided written comment on the proposed priorities. Comment were generally favorable. Overall, the comments may be characterized as suggestions for the funding of particular projects or types of projects, most of which were contained in the initial public notice. There was wide support for programs affecting practices throughout the criminal justice system. Drug abuse and general crime prevention and education, victim assistance, and information system programs were most often recommended as priority candidates. Written responses will be sent to each individual or organization who submitted a comment.

The program priorities for the FY 1987 Criminal Justice Discretionary Grant Program reflect a balanced response to identified needs resulting from public comment and discussions with citizens and representatives from public and private organizations. These priorities promise both immediate and long term contributions to the criminal justice system. Special consideration is given to drug prevention and education programs which could not be supported throughout other grant programs, but were deemed significant in their contribution to the fight against drug abuse.

Applications and Award Process

The Bureau of Justice Assistance has made an effort to establish an open and competitive application process.

Applications or concept papers are being requested from all eligible jurisdictions in several program areas. A panel of experts in the program field will be established to provide an objective review of the proposals and to make funding recommendations.

A number of projects will be awarded directly to a grantee rather than requesting applications on a competitive basis. This will be done for several reasons. First, many of the awards will be continuations of existing projects, which were originally selected on a competitive basis. Awards will be made to present grantees to insure continuity of service. Second, several existing cooperative agreements will be supplemented to extend their grant period through the next fiscal year. The Bureau will negotiate several awards with organizations which are uniquely qualified to provide required service. Generally, this is a service that is an implementation phase of work previously completed by the grantee.

All grants and cooperative agreements will be reviewed to insure that they are cost effective. Geographic distribution of projects will be considered for all programs which result in implementation in several sites.

Criminal Justice Discretionary Grants

Subpart I—Demonstration Programs

Purpose

Demonstration programs provide a means of testing state-of-the-art knowledge in priority criminal justice areas at a variety of sites. The models are based on substantial research and program documentation. All demonstration programs will be independently evaluated. Programs that prove successful may be certified as approved programs for state Block Grant funding in future years.

Program Title: Comprehensive Community Crime Prevention.

Background: The typical crime prevention program or initiative currently functioning in most law enforcement agencies today have been organized as a separate function to the mainstream of the department. Although this approach may expendite the initial program development, continuation of the program at the basic level is difficult. The vast amount of research supports the premise of systematic development and integration of prevention initiatives. This approach now places the challenge on local communities to enhance their current level of effort and requires a commitment from policy-makers.

In 1985 BJA identified a demonstration program which could lead to a more comprehensive approach to crime prevention. The major emphasis of the BJA crime prevention program was focused on five current demonstration sites in the United States. Each of the five sites has received funding to demonstrate policy and organizational change within a Law Enforcement Agency leading to the elevation of crime prevention within a department and a more systematic approach to crime prevention program development. During the initial funding cycle each site accomplished a great deal toward the development of the desired process. Primary focus of these efforts targeted policy and organizational change. They had to be in place—supported by management and recognized by line officers before step two could begin. Many of the ideas and concepts have been based on OJP sponsored research and initiatives, such as the Integrated Criminal Apprehension Program, Comprehensive Crime Prevention

Program, Serious Habitual Juvenile Offender Program, Career Criminal Program, and evaluation studies in Seattle, Hartford, and Detroit.

Goal/objective: Implement phase II and demonstrate a comprehensive, cost-effective crime prevention model involving all local government resources, citizen and private participation. This partnership will further demonstrate the current and future methods of how law enforcement and local government resources address crime patterns and effectively utilize citizen participation in reducing crime.

Program Description: Each demonstration program will utilize in phase II a process of Planning—Analysis—Service Delivery. Each element of the community, police, interagencies (local government), community participants, and private organizations will be actively involved, based on their respective ability and capacity. The key ingredient of the concept is the development of an operational information base, consisting of critical information pertaining to the community as a whole. Examples of the information to be collected include serious habitual offenders data (both adult and juvenile), crime analysis data, demographic data, school incident data, code enforcement data, fire incident data, neighborhood/community data, business development data, urban development, growth patterns, traffic flow patterns, recreational development, and community-based organizational data. The establishment of this database is critical to the development of a comprehensive assessment of the community and the identification of key data sources to coordinate the implementation of prevention strategies.

The Planning component of the model emphasizes operational planning. This process will require a comprehensive review of current operational initiatives. The police role will be to lead the overall process of orientation and education of the participants toward a broader understanding of prevention strategies. Input from the various participants will provide policy-makers a picture of the interactive involvement required and the role expectation of each participant. During this phase, participants will be exposed to the mutual concerns of prevention strategies and the impact of their participation. Research has identified that many agencies and organizations deal with the same problems without the knowledge that other organizations are attempting to address the same problem from a different perspective. The intent of the planning phase will be to emphasize the understanding that all community resources are reliant upon each other.

The Analysis component of the model will serve as the central repository for information from the various organizations to assist in the development of a comprehensive "descriptive package" of the community problems. Critical to the analysis is the education and identification of the benefits of informational sharing by the involved organizations. This process will permit each organization to visualize the involvement of other organizational resources to mutual problems. The initial efforts of the demonstration sites support the critical importance of informational sharing.

The Service Delivery component of the model will serve as the primary point of implementation of the prevention strategies developed from the analysis. The police concerns will be directed toward prevention program management and the integration of prevention strategies into the primary service delivery components of their organization, patrol, investigation, and special services. Each organization or element will be vested with specific role expectations in the delivery of services. During the development of the programs, interactive participation will be emphasized and the need for continuation of communication to assist the organization in the delivery of effective services. This service delivery approach will permit all participants to focus on problem-oriented issues, rather than the traditional methods of providing services in a reactive nature.

Grant Period: These continuation Cooperative Agreements will be for 12 months beginning October 1, 1987 through September 1988.

Award Amount: Awards will not exceed $100,000 or less than $50,000 for a total of $450,000 for 5 programs.

Program Contact: The Bureau of Justice Assistance contact for additional information on this program is Ronald Steger (202) 272-6838.

Program Title: Expert System for Burglary Investigations.

Background: The Bureau is interested in the application of new technologies, especially computer technologies, to enable state and local law enforcement officials to combat crime more effectively and more efficiently. Over an eight year period, researchers have developed and successfully tested in Great Britain, an intelligence system to assist investigators in solving residential burglary crimes. The effect of the computer system is like having the assistance of numerous expert investigators and vast research capacity for the investigation of each crime. The National Institute of Justice is sponsoring the modification of the English software to reflect American laws, terms and environment, and a test implementation in Baltimore County, Maryland.

Goal/Objective: It is the objective of this program to implement the elements of the burglary expert system, as they become successfully operational in Baltimore County, in four to six additional American jurisdictions, to develop easy expertise in system modification for diverse local conditions, and to demonstrate the utility of the system and the approach that it represents. Following this project, the system should be readily and economically available to any law enforcement agency. We will coordinate activities in this project with our Turnkey Program.

Program Description: The demonstration sites in this program will be phased in over a period of several months, following Baltimore County's operational status, and following also in-depth preparation work by site personnel and project personnel. Sites will be selected that meet law enforcement and research standards, and to provide sufficient dispersion and diversity for the demonstration. All participants will have the opportunity to actively observe Baltimore County, and others, as they implement each phase of the burglary system, through cluster conferences, networking, and a program newsletter. Some sites might need additional equipment, which will be provided. Most are likely to have sufficient EDP capacity at present. Sites will be required to keep and analyze specific data as a critical part of participation. Results will be publicized. Sites will be invited to apply in approximately sixty days. Publicity and screening will be the responsibility of the Grantee (Recipient of the cooperative agreement). Final selections will be made by the Bureau.

Grant Period: The project will be funded for 24 months.

Award Amount: An amount not to exceed $625,000 will be awarded in the form of a cooperative agreement.

Eligibility Criteria: The Bureau will make an award to the Jefferson Institute. Jefferson Institute will perform the aforementioned National Institute of Justice test in Baltimore County, and has unique qualifications as a result of professional involvement in the program in England.

Due Date: As the Bureau will negotiate a cooperative agreement with

the Jefferson Institute, no due date is given.

Program Contact: For information about this BJA program, the contact person is Fred W. Becker, Program Manager, 202/272–4605.

Program Title: Family Violence and the Role of the Juvenile and Family Court.

Background: Violence within the family, especially spouse abuse, is a national problem which undermines one of the most important characteristics of American life. As part of a national strategy against family violence, our court systems must be able to provide swift and focused justice to redress the violence and help, where possible, restore the family unit through community support services. Several jurisdictions have looked to the family courts to coordinate a range of adjudication responses so that a comprehensive and specially tailored remedy of each family violence case can be achieved.

Goal/Objective: This program will enable family courts to perform and coordinate a wide range of services to redress criminal and civil violation resulting from physical abuse and restore the family unit through timely and comprehensive sanctions/programs.

Program Description: Two to four jurisdictions will be selected to demonstrate the involvement of the family court in addressing family violence cases. Each family court will have the capability to screen cases, coordinate delivery of treatment services, impose sanctions against initial offenses, enforce mandated treatment, and monitor the progress of cases through dedicated staff. An advisory committee will oversee progress of the Program and individual sites and will provide or arrange for technical assistance. An evaluation will be conducted by the National Center for Juvenile Justice.

Grant Period: This award will be for 12 months.

Award Amount: One grant award will be made for up to $325,000.

Eligibility Criteria: A grant will be awarded to the National Council of Juvenile and Family Court Judges.

Due Date: Application will be due to the Bureau of Justice Assistance no later than June 1, 1987.

Program Contact: The contact in the Bureau of Justice Assistance is Jay Marshall, Discretionary Grant Program Division, (202) 272–4601.

Program Title: Effective Prosecution of Child Physical and Sexual Abuse Cases.

Background: This demonstration program was initiated in FY-86, based on recommendations of the Family Violence Task Force Report, and increased national attention to child sexual and physical abuse. Each project involves a special prosecution unit trained to handle child abuse cases within the context of local multi-agency working groups. Seven original projects were funded at $150,000 for 18 months (plus one non-funded project). Both the President's Task Force on Victims of Crime and the Attorney General's Task Force on Family Violence found that physical and sexual assault of children are very serious crimes that have a profound impact on the child victims. Both task forces also recognized that children who are victims of these crimes are different from adult victims. Children are often revictimized by the insensitivity of a criminal justice system designed for adults. Children are traumatized by having to repeat their story of victimization again and again to social workers, police, prosecutors, probation officers, defense attorneys and judges, who usually have no training in interviewing child victims.

Phyical and emotional needs of the child as well as his or her treatment needs may be inconsistent with the traditional legal requirements for prosecution.

The special legal requirements in these cases must be balanced against needs of children from the initial investigation interview through case development and prosecution, and imposition of sentence. To be sucessful and to reduce trauma to the child victims, prosecution must be carried out by trained prosecutors who are sensitive to the needs of the child victims, and these cases must be coordinated with other agencies which have responsibility.

Goal/Objective: The goal of this program is to provide continuation funding for four to five of the original seven demonstration projects.

Program Description: Four to five continuation projects will be funded. Each project is designed to improve the prosecution of child sexual and physical abuse cases. The goal is protection of the child from further abuse, reduction of trauma to the child victim caused by the criminal justice system, streamlined investigative processes and improved cooperation and coordination among all interested organizations.

Grant Period: Projects will be refunded for six months to cover critical staffing and training needs.

Award Amounts: $300,000 is earmarked for this program. Four to five project awards will be made in the range of $50,000–$75,000.

Eligibility Criteria: Applicants are confined to those previously funded in FT-86 by BJA. Each application should provide detailed descriptions of how the applicant will continue to meet the following criteria:

- Provides for specialized training of prosecutors in areas related to child abuse.
- Provides for the development of special distinct unit to process child abuse cases.
- Utilizes vertical prosecution.
- Utilizes special procedures and policies for child victims.
- Has protocols for coordinating and working with: victim assistance providers, child protection workers, law enforcement community, social service system, mental health system, family and/or juvenile court.
- Effectively utilizes its own resources in the development of this unit.

Selection will be dependent on the applicant showing the level, commitment, effective implementation and quality of performance of the original grant.

Due Dates: All applications are due at BJA on later than June 3, 1987.

Program Contact: The BJA contact on this program is Nicholas Damos, Program Manager for Corrections, 202/272–4605.

Program Title: Private Section/Prison Industry Expansion.

Background: In the 1970's LEAA initiated the Free Venture Prison Industry Program to promote and increase efficiency and modern business practices in state prison industries. Subsequently, Congress authorized a pilot prison industry enhancement certification program which opened up the national market place to state prison industries. That program promoted joint ventures between the private sector and state prison industries. In 1985, the National Institute of Justice initiated a training and demonstration program to promote private sector prison industries. That program funded training in public-private partnerships in 23 states and the start-up of 3 demonstration sites. The Bureau of Justice Assistance is now supporting four additional demonstration sites in a joint program with the National Institute of Justice.

Goal/Objective: The goal of this program is to promote joint ventures between the private sector and state prison industries. BJA funding will extend technical assistance, training, and evaluation activities to the states of Alaska, Louisiana, Nebraska, and New Hampshire to develop private/public sector joint ventures, so that the

program includes all seven jurisdictions that applied for assistance. The project will produce case studies, resource documents and candidates for the PIE Certification Program, as well as a cadre of prison industry administrators to serve as consultants to other states. The funding mechanism will be handled through intra-agency transfer.

Grant Period: The funding period will be from April 15, 1987 through September October 15, 1988.

Award Amount: Amount to be transferred to NIJ is $150,000.

Program Contact: The BJA contact on this program is Kim Rendelson, Program Specialist for Corrections, 202/272–4605.

Subpart II—Technical Assistance and Training Programs

Purpose

Through the provisions of the Justice Assistance Act of 1984, Congress has clearly intended to fund programs that will have a profound and immediate impact on violent crime. To ensure that the Block Grant Programs mandated by Congress have every opportunity of successful implementation, technical assistance and training support will be provided. This assistance will be extended to those projects funded under the State Block Grants, as well as, those which fit within the Congressional mandate but for which no block funds can be allocated.

Technical assistance and training will be provided at the lowest cost possible, emphasizing the use of short-term, practitioner-consultants from states, and regional grouping of assistance whenever possible. Technical assistance and training support will involve: (1) The provision of counsel and guidance from expert, field practitioners from jurisdictions which have implemented successful technique; (2) the use of staff specialists from the Bureau of Justice Assistance; (3) individual purchase orders for expert services; (4) expansion of current grants and contracts when cost effective to do so; and (5) cooperative agreements to engage non-profit agencies.

Applicant deadlines and dollar amounts are noted in the program descriptions. Cooperative agreements and grants will be awarded for 100 percent of project costs. Public agencies and private non-profit organizations are eligibly to apply.

Program Title: Technical Assistance and Training for Community Crime Prevention

Background: Fear of Crime and crime prevention always rank high when citizens are asked about their major concerns regarding quality of life. It was therefore no surprise that analysis of how states and local governments intended to utilize BJA Block Grant funds identified Crime Prevention as the most requested program for implementation. In 1985-1986 approximately 300 programs received block grant funds for state and local crime prevention efforts. The National Crime Prevention Council received a Cooperative Agreement from BJA to assist these programs in implementing the best and most cost effective activities. The mandate from BJA was to utilize the crime prevention practitioner as the expert consultant and develop a core of these individuals across the country to provide technical assistance/training to all 300 programs. This activity was completed in August of 1986 and received outstanding marks from the evaluation conducted by the Institute for Social Analysis. Their recommendation was that it be expanded to non-block grant recipients because of its effectiveness and local/state impact. Other NCPC activities included a National Resource Library of Crime Prevention materials (a clearinghouse function), a national computerized inventory of current crime prevention program nation-wide, and "How To" guides for new and advanced programs.

Program Description: This program will emphasize cost effective; quality training to all recipients of block grant funding for implementation of community crime prevention programs. It will also continue offering custom designed state-wide technical assistance/training to all crime prevention programs for a limited number of states. Further the National Resource Library and National Computerized Inventory Center will provide assistance to any citizen requesting help and materials.

In FY88, it is anticipated that over 325 individual block grants will receive technical assistance, approximately 500 state and local programs will receive assistance from the National Crime Prevention Computer Center and that 2000 requests will be filled from the National Resource Library. The goal is quick, accurate, helpful response to individual, state and national crime prevention technical assistance and training needs.

Grant Period: The funding period will be from October 1, 1987 through September 30, 1988.

Amount of Award: $700,000 will be supplemented to the current technical assistance and training cooperative agreement with the National Crime Prevention Council.

Program Contact: The Bureau of Justice Assistance contact for additional information on this program is Ronald Steger, (202) 272–6838.

Program Title: Intelligent Training System for Prosecution Career Criminal Programs.

Background: Prosecutor Career Criminal Programs have been the subject of several years of TA and training sponsored by this Bureau and its predecessor agencies. Thousands have been exposed to the concepts and have had assistance towards developing an effective CCP. However, due to many factors, including elections, personnel changes, changes in crime patterns, demographic and socio-economic changes, many jurisdictions that would like to target career criminals for more intensive, more successful prosecution do not have a program. BJA's current TA/training program has found a great continuing demand for CCP assistance. However, we have also developed in the current program, 1987 state-of-the-art expertise in career criminal program design: the original principles, plus what experience has generated in recent successful programs. The challenge is for an effective, flexible, but inexpensive way to continually meet the constant, yet changing need.

Goal/Objective: This program seeks to utilize the concepts of expert systems and the availability of unique state-of-the-art knowledge to develop widely usable software: To expand the reach of BJA training programs; to reduce long term costs of effective TA/training; to provide state and local prosecutors with up to date expert knowledge; to enable prosecutors to tailor a career criminal program to local needs using commonly available computer hardware; to create an easily undatable system for long term use. This program will also serve as a model and sounding board for concepts and standards of the Bureau's Turnkey Program, and will be coordinated with Turnkey.

Program Description: The Bureau will fund a cooperative agreement with the Jefferson Institute to translate the state-of-the-art knowledge of prosecution career criminal programs, gained in BJA's current TA/training programs, to develop suitable practice rules as the core of an expert system. The system will utilize knowledge engineering for the explication of rules. The system will allow any prosecutor to team the new software with most commonly available hardware, especially popular PC's, and design a state-of-the-art career criminal program that is tailored to local needs and conditions. In addition, the system will include an update and evaluation

component that will capture user overrides and innovations. This data can then be studied for possible revision of the expert system for both new and old users. The cooperative agreement will provide for the design, development, and successful testing of the intelligent training system, plus initial dissemination and recommendations for intermediate and long term dissemination and updating. Jefferson Institute will also provide advice and assistance to the Bureau's Turnkey Project, throughout the program and in their final report.

Grant Period: The duration of the cooperative agreement will be twelve months.

Amount of Award: The award is not to exceed $200,000.

Eligibility Criteria: The Bureau will negotiate a cooperative agreement with Jefferson Institute based on a concept paper submitted by the Institute. Jefferson Institute has been a key consultant in the design and delivery of extensive expert training for prosecutors in the planning, design and implementation of state of the art career criminal programs. The Institute enjoys a unique relationship with the team of experts and consultants responsible for the success of this BJA sponsored program. The Institute also has extensive experience with the development of intelligent systems in a law enforcement environment, in addition to a long history of highly respected related research.

Program Contact: Fred W. Becker, 202/272–4605, is the BJA program manager for this program.

Program Title: Appellate Court Delay Reduction.

Background: Court delay reduction has received substantial attention, especially at the trial court level. Many jurisdictions implementing court delay reduction techniques and models have successfully reduced backlogs and case processing delays. Research and evaluation conclude that expeditious processing of cases can conserve resources of court systems, afford the citizen prompt resolution of litigation, and maintain the standards of fair and impartial justice. Appellate courts must be prepared to handle increasing caseloads and pace of litigation. Several appellate courts have already developed management and administrative systems which show promise as contributing to reducing delay problems experienced in many courts throughout the country.

Goal/Objective: This program is designed to reduce delay in the processing of cases in appellate courts.

Program Description: A grant will be awarded to the American Bar Association (ABA). Through the ABA's Task Force on the Reduction of Litigation Cost and Delay, an intensive effort will be directed at identifying appellate court systems which have excelled at reducing delay, identifying and documenting those processes contributing to delay reduction, and publishing those processes and standards for integration in appellate court systems throughout the country. Appellate court delay reduction models will be developed and technical assistance will be provided to help implement those models in selected jurisdictions. Focus will be given to interrelating proven trial and appellate court delay reduction techniques so that a litigation systems perspective is incorporated in recommended models to reduce appellate court delay.

Grant Period: This award will be for 12 months.

Award Amount: One grant award will be made for an amount up to $99,700.

Eligibility Criteria: The award will be made to the American Bar Association.

Due Date: Application will be due to the Bureau of Justice Assistance by July 1, 1987.

Program Contact: The contact in the Bureau of Justice Assistance is Jay Marshall, Discretionary Grant Program Division, (202) 272–4601.

Program Title: Structured Sentencing Program.

Background: The issue of uniformity in criminal law sentencing and a rational sentencing structure is at the heart of corrections policies, and most states are now engaged in a dialogue concerning sentencing structure. The Minnesota Sentencing Guidelines became effective in 1980, and have proven effective in structuring criminal dispositions and length of prison sentences. A wave of similar efforts followed in other states, and legislatively mandated guidelines are in place in Washington, Maine, Florida, New York, Pennsylvania, South Carolina, Texas, and are being developed in Tennessee and at the Federal level.

A recent survey indicated that twenty state legislatures will consider sentencing legislation in 1987, and fourteen states will consider sentencing guidelines.

The objectives of achieving fairness and certainty in sentencing are basic to the sentencing guidelines concept, and most guidelines take into account public and legislative attitudes for tougher penalties for serious, recidivist criminals.

Even where no formal sentencing guidelines exist, legislatures have moved toward creation of determinate sentencing, in which judicial discretion is limited, and sentences are served in full. All of these sentencing options require extensive staff/support and interaction between the legislature and representatives of the courts and prosecution and other criminal justice functions. This program provides support to states engaged in that process.

Program Description: This is a demonstration and technical assistance program to assist states to develop structured sentencing proposals, including sentencing guidelines. The objective is to improve consistency and uniformity of sentencing, and insure a tie into State corrections policies.

A national program coordinator will administer the program under a cooperative agreement with the Bureau of Justice Assistance. The program coordinator will be selected on a competitive basis. The national coordinator will provide technical assistance to State agencies and administer contracts to an estimated four sites. Four contracts of $75,000—$125,000 per state will be awarded on a competitive basis. Clearinghouse and short-term assistance will also be provided to an estimated ten states.

Grant Period: This project will be funded for 18 months with a projected start-up date of early August, 1987. The national program coordinator will fund contracts with appropriate state agencies (legislative commissions, joint study committees, or judicial agencies) for periods of 12 months.

Award Amounts: $615,000 is earmarked for this program. One grant will be awarded to a national program coordinator under a cooperative agreement with BJA. $400,000 of the funds will be for pass through to State agencies.

Eligibility Criteria: The national program coordinator will be selected based on the following criteria: The quality of the technical management plan; the knowledge of the proposed staff in the sentencing area; the applicants plan for identifying technical assistance consultants; the proposed budget allocation (ratio of direct services to overhead); and the timeliness of initiating technical assistance services. Contracts to State agencies will be on a competitive basis. Concept papers will be submitted to the national program coordinator through August 30, 1987. Selections will be by an independent panel based on the following criteria: Severity of the

sentencing problems being addressed; understanding of recent trends and options; clear statement of objectives; comprehensiveness of the representation on the State commission or committee; proposed end products; and time/cost factors.

Concept papers should be approximately 10–12 pages with a one page budget summary. Interested states should contact the BJA program manager in June or July for additional details.

Due Dates: Non-profit firms or agencies interested in competing for the national program coordinator grant should complete SF 424 and submit to BJA by June 15, 1987.

States interested in applying for grant funds should submit concept papers to the designated national program coordinator in July or August, 1987.

Program Contact: The BJA program contact is Nicholas Demos, Program Manager for Corrections at 202/272–4605.

Program Title: Strategic Planning for Prison Industries.

Background: In a recent survey of State and Federal prison industries, by the Prison Industry Information Clearinghouse, ACA, there was nearly universal support for a national effort to assist with correctional industry business plans. A number of prison industry operations are already operating within the context of long term strategies and plans including PRIDE, Florida; UNICOR, Federal Prison Industries; Ohio Penal Industries; Illinois Correctional Industries; and California Prison Industries, among others. State prison industries are under intense pressure to expand their operations to new institutions while increasing the scope and efficiency of current prison industries. Some correctional industries are being called on to double operations within a relatively short time frame.

State correctional industries cannot meet these growing and sometimes conflicting obligations without redefining their mission and goals, and developing plans for appropriate legislation, policies and procedures. A wider range of products and services must be planned for, and new wage and price policies may need to be initiated. Where laws allow, some states are developing joint ventures with private firms and entrepreneurs.

Program Description: This project will provide technical assistance to State correctional industries to expand their business operations, particularly for long-term strategic planning, defining business objectives, growth markets and means of financing growth. The level of strategic planning will vary depending on the sophistication of correctional industries in each State. Small sub-grants of $25,000–$30,000 per State would be approved by BJA through the technical assistance grantee. Those State funds could be used for consultants and facilitators to assist in the planning process, as well as site visits to other advanced prison industry operations. Pride, Inc., Florida, for example, has completed a five-year strategic business plan that could be used as a basis for similar plans in other States.

Other technical assistance would be provided for specific issues such as industry staffing patterns, marketing techniques, sales training, and product promotion. Some training programs of organizations such as the American Management Association may be adapted to the prison industry environment. The project will be guided by and operated in close coordination with the Correctional Industry Association and its board of directors.

It is estimated that strategic planning, marketing assistance and short term technical assistance will be provided to fifteen to twenty State correctional industries.

Grant Period: This project will be funded for eighteen months, with the possibility of refunding based on results achieved.

Award Amounts: One technical assistance grant will be awarded on a competitive basis for $425,000. It is estimated that up to $150,000 of the grant will be passed-through to State correctional industries to develop and implement long-range business plans, and that $275,000 will be available for project administration and provision of short-term technical assistance.

Eligibility Criteria: The correctional industry technical assistance grantee will be selected based on the following criteria: The quality of the technical management plan; the knowledge of the proposed staff in the corporate planning and correctional industry areas; the applicant's plan for identifying technical assistance consultants; the proposed budget allocation (ratio of direct services to overhead); and the timeliness of initiating technical assistance services.

Contracts to State correctional industries will be on a competitive basis.

Concept papers of five to six pages plus a one page summary budget should be submitted to the technical assistance coordinator for initial review and screening. Final sub-grantee sites will be approved by BJA based on urgency of need, readiness for implementing recommendations, and innovations proposed in correctional industry operations, including joing ventures with the private sector. Interested States should contact the BJA program manager in June or July for additional details.

Due Dates: Non-profit firms or agencies interested in competing for the prison industry strategic planning grant should submit application to BJA by June 30, 1987. States interested in applying for grant funds or technical assistance should submit concept papers to the designated technical assistance grantee in July or August, 1987.

Program Contact: The BJA project contact is Nicholas Demos, Program Manager for Corrections at 202/272–4605.

Program Title: National Conference on Prison Based Business and Industry.

Background: With a changeover in administration in 23 States, there is a substantial need to emphasize the new work-oriented philosophy of corrections, and the trend toward operation of prison industries along private business lines. The adoption of business-like approaches to correctional industries is also changing the relationship within State departments of corrections. New demands are being made on correctional industry directors to change the structure under which correctional industries have typically operated, and to update personnel practices, financing, marketing and production techniques. In discussing these trends with officials of the Correctional Industry Association and the American Correctional Association, the need for a national conference on prison-based businesses and industry became evident.

Goal/Objective: The goal of this program is to emphasize the new work-oriented philosophy of corrections, and the trend toward operations of prison industries along private business lines. The goal will be met through a national conference that would bring together State department of corrections directors, State prison industry directors, and key private sector businessmen from every State to review the latest trends in prison industries. The conference will cover organizational issues, financing, private sector support, marketing and production.

Grant Period: August 1, 1987 through January 31, 1987.

Award Amounts: $100,000 is earmarked for this program.

Eligibility Criteria: One award will be made to the American Correctional Association.

Due Dates: An application is due at BJA by June 1, 1987. Projected start-up date is August 1, 1987.

Program Contact: The BJA contact for this program is Nicholas Demos, Program Manager for Corrections, 202/272–4605.

Program Title: Private Sector/Prison Industry Enhancement Certification—Technical Assistance and Training.

Background: Section 819 of the Justice Assistance Act of 1984 continues the Prison Industry Enhancement Program originally authorized under the Justice System Improvement Act of 1979. These certified projects represent prison industries operated at free-world standards and paying prevailing wage rates. The benefits received are the availability to sell prison-made goods in interstate commerce and to Federal agencies. Up to 20 prison industry projects may be certified for this exemption when determined by the Director of the Bureau of Justice Assistance to meet statutory and guideline requirements. The certified projects are designed to place inmates in a realistic working and training environment, enabling them to acquire marketable skills and make financial contributions to victims, their families, and the correctional institutions.

Goal/Objective: This project is designed to provide technical assistance and training to current certified program managers as well as new applicants to the Prison Industry Enhancement Program.

Program Description: This project will be a continuation of the present technical assistance and training cooperative agreement with the American Correctional Association/Correctional Industries Group, Inc. The cooperative agreement will provide for the use of expert personnel from previously certified projects who have demonstrated skill in achieving administrative, correctional, and business objectives. These experienced prison industry officials will help upgrade other project management systems, assist in resolving operational problems, and enhance communication and sharing among project participants. Up to 20 intensive on-site technical assistance visits are anticipated.

The cooperative agreement will also support a series of specialized training sessions (up to six) for state and local corrections agency personnel responsible for the planning, development, operation, and administration of prison industry projects. In addition, the project will provide for special projects and evaluations, at the direction of the Bureau of Justice Assistance.

Grant Period: The supplemental project duration will be 18 months.

Award Amount: $150,000 is earmarked to supplement the current technical assistance and training project.

Due Date: A cooperative agreement will be negotiated in July 1987.

Program Contact: The BJA contact is Louise S. Lucas, Program Manager, Special Programs Division, 202/272–4601.

Program Title: Drug Abuse Resistance Education (DARE) Program Brief.

Background: There is mounting concern nationwide about the use of drugs by American youth. According to the Institute for Social Research, in its 1984 report on drug and alcohol use by American high school seniors, the US has the highest rate of teenage drug use of any industrial nation in the world (Johnston, O'Malley, and Bachman, 1984). This being the case, communities, law enforcement officials, and criminal justice personnel are seeking different approaches to substance abuse reduction. The DARE program, as administered by the Los Angeles Police Department, has proven that Drug Abuse Resistance Education programs work well in teaching kids to resist drug use. The Bureau of Justice Assistance (BJA) funded seven demonstration projects in September 1986 to plan and organize DARE programs, using the LAPD DARE project as a model. The Demonstration Sites that are planning these programs have found that there is a need for instructions/guidance to be used by other agencies wishing to replicate the DARE program. The Bureau of Justice Assistance is funding a project to produce the DARE Program Brief for use by other agencies. This program brief will be distributed by BJA to interested persons, upon request.

Goal/Objective: This program will produce a detailed Program Brief to be used by persons replicating the DARE program.

Program Description: One grant will be awarded to develop the DARE Program Brief. The DARE Program Brief will include:

—A concise description of Project DARE;
—The essential elements required for replication, and,
—A step-by-step description of how to replicate a DARE Program.

Grant Period: The Award is for eight (8) months.

Award Amount: The Award will be for $70,000.

Eligibility Criteria: This award will be made to the Education Development Center because of its previous work to evaluate the DARE Program and develop issues/practices manual relating to police-school prevention programs.

Due Date: Final Application is due immediately.

Program Contact: The Bureau of Justice Assistance contact for additional information is Dorothy L. Everett, Discretionary Grant Program Division 202/272–4604.

Program Title: Regional Training for Drug Abuse Resistance Education (DARE).

Background: Numerous requests received by the Bureau of Justice Assistance (BJA) have focused on the need for training for the growing numbers of agencies wishing to replicate the DARE program. Regional Training Centers are viewed as a means to make training more accessible to local agencies than the present arrangement being utilized by BJA Demonstration Sites and others, whereby all Instructors are sent to Los Angeles for training by the Los Angeles Police Department Staff. Regional training can be adapted to the unique characteristics of each region while maintaining program integrity. Expertise and knowledge gained by each region will be accessible to nearby community programs. Regional Training Centers can facilitate the development of officer/instructor peer support networks, offer in-service training, and promote information exchange. This effort is designed to determine the programmatic, administrative, organizational and budgetary requirements for the establishment of regional training centers and to provide modest funding assistance in the establishment of up to three centers.

Goals/Objectives: This program will determine functional requirements for, and proceed toward the establishment of, training centers to provide technical assistance and training for intensive Drug Abuse Resistance Education Program development and implementation throughout the United States.

Program Description: The program will proceed in two phases. Under Phase I, a cooperative agreement, in the amount of $70,000, will be negotiated with the Los Angeles Police Department, for the purpose of determining, publishing and applying functional requirements for regional training centers. The statement of requirements will draw directly on the extensive experience of LAPD in providing DARE training and on the experience of BJA demonstration sites and shall include: Programmatic requirements; administrative requirements;

organizational requirements; and budgetary requirements. Such statement will incorporate the copyrighted DARE curriculum and the DARE Program Brief and implementation manual to be developed under a separate BJA program.

Under Phase II, the criteria inherent in the requirements developed in Phase I will be applied to interested, potential training sites and cooperative agreements will be negotiated with up to three of the most qualified sites, for the purpose of assisting in the establishment of regional training centers at those sites. Total available for Phase II is $120,000.

Grant Period: This program will be for eighteen months: Phase I for six months; Phase II for twelve months.

Eligibility Criteria: As the co-creator of DARE, and as the trainer of officers from over 140 police departments, the Los Angeles Police Department is uniquely qualified to conduct Phase I of this program. Eligibility for Phase II will be determined through the application, to potential sites, of the criteria developed under Phase I.

Award Amounts: The Phase I award will be for $70,000. Phase II awards will total $120,000. Program total is $190,000.

Due Dates: Application for Phase I is invited immediately. Applications for Phase II will be invited at a later date.

Program Contact: The Bureau of Justice Assistance contact for additional information is Dorothy L. Everett, Discretionary Grant Program Division, 202/272–4604.

Program Title: Restitution for Victims of Juvenile Offenders, Technical Assistance and Training Continuation.

Background: In September 1986, the Restitution Education, Specialized Training and Technical Assistance Project (RESTTA) of the Pacific Institute for research and Evaluation (PIRE) was awarded a grant to provide technical assistance and training to juvenile restitution programs supported by the Bureau of Justice Assistance (BJA) Block Grant Program. RESTTA provides both on-site and regionally-based training and technical assistance to State and local jurisdictions for program development and/or enhancement. Some grantees receiving block grant funds for juvenile restitution have experienced late start-ups, and some States have yet to award restitution projects that they have committed to. The PIRE/RESTTA award is scheduled to end June 30, 1987. This end date does not permit enough time for completion of the services requested, nor does the remaining award amount provide for services to new restitution projects, that are just starting. The BJA will award a supplemental grant to the RESTTA for continuation of the training and technical assistance activities in juvenile restitution.

Goals/Objectives: This program will continue to provide technical assistance and training to juvenile restitution projects in an effort to: Foster actual and permanent improvement in juvenile restitution at the State and local levels; foster communications among peer jurisdictions for access to program development resources; and, convey concepts of the proven program to State and local jurisdictions and other criminal justice practitioners.

Program Description: Under a cooperative agreement the RESTTA will continue to provide technical assistance and training to BJA block grant recipients on an as-needed basis as spelled out in Grant Number 86–SA–CX–K025 with the following additional tasks:

—Review and update the Restitution by Juvenile Offenders Program Brief dated June 1985;
—perform an evaluation of the juvenile restitution initiatives RESTTA is involved with, and prepare a final assessment for the BJA not later than November 30, 1987.

Grant Period: This Supplemental Award will be for six months.

Award Amount: This Supplemental Award will be for $75,000.00.

Due Date: Application is due to BJA by June 1, 1987.

Eligibility Criteria: This award will be made to the PIRE and the RESTTA staff will have the responsibility for providing on-site visits/training and technical assistance services as spelled out in the present award.

Program Contact: The Bureau of Justice Assistance contact for additional information is Dorothy L. Everett, Discretionary Grant Program Division, 202/272–4604.

Program Title: Technical Assistance and Training—Criminal Justice Information Systems.

Background: The availability of micro technology has led to a growing interest, among criminal justice agencies, in the automation of management functions. A substantial portion of state block grant funds has been allocated to information systems, most notably the Prosecutor Management Support System (PMSS). In response to this interest, BJA has made available, through SEARCH Group, Inc., program development and technical assistance and training. Given limited resources, BJA has established PMSS block grantees as the priority recipients of on-site assistance, but has authorized the provision of more general information systems training.

Active involvement by state and local criminal justice officials, in the design of this assistance, has led to: The development of a "turn-key" software package for easy and immediate use by local prosecutors under the PMSS program, which will be made widely available after site testing in May of 1987; a large and growing demand for assistance in the design and implementation of systems which are integrated at the local level, allowing for direct information sharing among criminal justice agencies; a strong interest in the application of micro technology, as demonstrated in PMSS, to the case management challenges faced by jails, courts, probation and monitoring agencies, like TASC, which serve the criminal justice system.

Goal/Objective: This program will provide continued program devleopment and technical assistance to local and State criminal justice agencies, in criminal justice information systems.

Program Description: A Cooperative Agreement will be awarded to SEARCH Group, Inc. to support continued program development and technical assistance and training, in criminal justice information systems. Initial priorities will be based largely on the existing backlog of requests for on-site assistance to block grantees and the anticipated demand for a "turn-key" PMSS software, with its corollary requirement for on-site assistance in installation. SEARCH Group, Inc. is invited to apply for this continuation. The application should reflect existing priorities and existing and anticipated demand; and should incorporate any recommended revisions in approach drawn from experience to date.

Grant Period: This award will be for fifteen months.

Award Amount: One award, through Cooperative Agreement, will be made int the amount of $295,000.

Eligibility Criteria: The Cooperative Agreement will be awarded to SEARCH Group, Inc.

Due Date: Application for the Cooperative Agreement will be due to the Bureau of Justice Assistance by June 1, 1987.

Program Contact: The Bureau of Justice Assistance contact for additional information is John Gregrich, Discretionary Grant Program Division, (202) 727–6838.

Program Title: Operational Program System Development and Demonstration.

Background: This program to develop micro-computer, operational (sometimes

called "turn-key") systems is directly responsive to certain, immediate characteristics of the criminal justice system. The criminal justice system, in 1987, reflects: Resource limitations which require that efficiencies be realized through automation; widespread and growing willingness to employ automation; a need for disciplined guidance and assistance in the face of a virtual explosion of different, "inexpensive", micro technologies; a growing caseload pressure as a result of renewed enforcement efforts under the "Anti-Drug Abuse Act of 1986"; A national need for local programs which improve operations and which also generate credible, comparable and cumulative statistics to inform national policy. This program will draw upon recent and continuing experience in the development and implementation of "turn-key" systems in such areas as Prosecutor Management Support Systems (PMSS) and Career Criminal programs.

Goal/Objective: This program will provide standards for public domain, operational ("turn-key") information systems, and will develop, demonstrate and document for transfer, and disseminate selected operational programs.

Program Description: Through a Cooperative Agreement, a competitively selected grantee will draw upon recent experience in the development of the PMSS opertional system and other public domain operational systems and will work cooperatively with the organizations involved, and with other organizations named by BJA, to: (1) Develop a set of recommended national standards for directly transferrable, public domain, operational systems; (2) develop, test and disseminate up to three such systems. Priority consideration for systems development will be given to the least costly extensions of existing systems and to jail and prison management, to law enforcement applications, and to case management applications such probation, parole and TASC.

For purposes of this program, "operational system" or "turn-key system" shall mean a system which can be directly employed, with minimal or no additional guidance, by a criminal justice agency. Such a system will be in the public domain, will be thoroughly site tested and will include functional specifications, design specifications, explicit operating instructions and software. For purposes of this program, "standards" will mean the minimum conceptual and functional requirements, related to reliability, to flexibility and to ease of operation, which must be met for a system to be designated "operational" or "turn-key". An example would be the minimum number of operating systems on which such a system must run.

Grant Period: This award be for eighteen months.

Award Amount: One award, through Cooperative Agreement, will be made in the amount of $290,000.

Eligibility Criteria: Interested organizations are invited to submit a concept paper which demonstrates: A thorough understanding of the requirements of the program; a technical capacity to implement the program; an organizational capacity to implement the program; a capacity to work cooperatively with other organizations and with local criminal justice agencies; a recommended approach to implementing the program, which includes specific products and a timeable for their delivery; and cost-effectiveness.

A panel of experts and practitioners will review the concept papers and will make recommendations to BJA, regarding which organizations(s) should be invited to make formal application. If more than one organization is invited to apply, a panel will be convened to rate and rank the applications.

Due Dates: Concept papers are due to the Bureau of Justice Assistance by June 1, 1987. Invited application(s) will be due to the Bureau of Justice Assistance by August 1, 1987.

Program Contact: The Bureau of Justice Assistance contact for additional information is John Gregrich, Discretionary Grant Program Division, (202), 272–6838.

Program Title: Training and Demonstration Center/Laboratroy.

Background: As indicated in the preceding programs' narrative, criminal justice agencies are both of and in need willing to utilize automation. However, most agencies, and especially small to medium-sized agencies, lack the necessary resources and expertise to: Maintain information on available, public domain systems; investigate new technologies; develop criminal justice applications for existing technology; compare available technology and select the most cost-effective hardware and software for local systems; and provide necessary, technical training for their employees, to meet local or national information requirements.

In response to these needs, the Bureau of Justice Statistics, in 1986, awarded a grant to SEARCH Group, Inc. to establish a computer laboratory and training center in Sacramento, California. Private sector vendors responded by donating hardware and software to be used for training, demonstration and comparision purposes. Although still in the early stages of implementation, this laboratory has already served in the conduct of eight, POST-certified training programs in information system management. Training in UCR reform reporting requirements and in PMSS and other operational systems is envisioned. The variety of donated machinery provides the capacity for both hands-on training and for practical comparison.

This program is designed to build upon the experience of the Sacramento-based lab, and to make its services more directly available to criminal justice agencies in the eastern United States.

Goal Objective: This program will provide specific, practical assistance and training to local, criminal justice agencies in automating funtions, in implementing programs such as PMSS and UCR incident-based reporting and in selecting the most cost-effective technology for local application.

Program Description: A Cooperative Agreement will be awarded for a joint effort by SEARCH Group, Inc. and the Criminal Justice Statistics Association. Under this Cooperative Agreement, a Training and Demonstration Center/Laboratory will be established at a site which is easily accessible to criminal justice agencies in the eastern half of the United States. Private sector vendors will be encouraged to donate hardware and software. The eastern Center/Laboratory will draw directly on the experience grained in the establishment and conduct of the existing Center/Laboratory in Sacramento and will provide: Specific demonstration of and training in operational ("turn-key") systems such as PMSS; training in the incident-based reporting requirements for UCR; specific opportunities for criminal justice agencies to make informed comparisions of available technology; other analyses, products and services as requested by the BJA.

Grant Period: This award will be for eighteen months.

Award Amount: One award, through a negotiated Cooperative Agreement, will be made $292,000.

Eligibility Criteria: A Cooperative Agreement will be negotiated in response to an application from SEARCH Group, Inc. and the Criminal Justice Statistics Association, to fund a joint effort.

Due Date: Application for the Cooperative Agreement will be due to the Bureau of Justice Assistance by June 1, 1987.

Program Contact: The Bureau of Justice Assistance contact for additional information is John Gregrich, Discretionary Grant Program Division, (202) 272–6838.

Program Title: Criminal Justice System Modeling Development and Demonstration.

Background: Computer simulation models which present criminal justice agencies, and their actions, as an interactive system have been used episodically over the last decade. Such models as JUSSIM (Justice System Improvement Model), PHILJIM (Philadelphia Justice Improvement Model) and DOTSIM (Dynamic Offender Tracking Simulation) have proven useful to policy-makers and programmers. These models generally provide a way to describe, and predict, the flow of cases or offenders through the system and, in doing so, offer a graphic depiction of the system impact of alternative policies and actions when adopted by various parts of the system. For example, the impact of intensive, street sweep enforcement efforts by the police on the caseloads to be processed by the courts can be predicted and planned for.

There is a renewed interest in such modeling, among criminal justice planners, budgeters, and policy-makers, due in part to the evolution of computer technology, in part to the limitations of local resources and in part to the complexities presented by the drug-dependent offender.

Goal/Objective: This program will assess and demonstrate the ability of modeling technology to assist criminal justice decision-makers in the determination of the system impact of alternative policies and actions.

Program Description: Through a cooperative agreement, with a competitively selected grantee, this program will develop, test and demonstrate a public domain, operational systems ("turn-key") model which is user friendly, which will run on a reasonable number of different micro-computers and which is sufficiently standardized to allow for comparision of information among sites. Among the steps that will be required are: the assessment of the utility of existing models, such as JUSSIM and PHILJIM; the assessment of emerging micro-technology models; the design and full documentation of the recommended system; the testing of the recommended system; the demonstration of the utility of the system at more than one site; the delivery of a public domain system package, including the necessary software and the necessary documentation and instruction for its use and modification by local agencies with no or minimal assistance.

Grant Period: This award will be for twenty-four months.

Award Amount: A Cooperative Agreement will be negotiated in the amount of $290,000.

Eligibility Criteria: Interested organizations are invited to submit a concept paper which demonstrates: A thorough understanding of the requirements of the program; an understanding of the utility and limits of existing models; a technical capacity to implement the program; an organizational capacity to implement the program; a capacity to work cooperatively with local criminal justice agencies; a recommended approach to implementing the program, which includes specific products and a timetable for their delivery; and cost-effectiveness.

A panel of experts and practitioners will review the concept papers and will make recommendations to BJA, regarding which organization(s) should be invited to make formal applications. If more than one organization is invited to apply, a panel will be convened to rate and rank the applications.

Due Dates: Concept papers are due to the Bureau of Justice Assistance by June 1, 1987. Invited application(s) will be due to the Bureau of Justice Assistance by August 1, 1987.

Program Contact: The Bureau of Justice Assistance contact for additional information is John Gregrich, Discretionary Grant Program Division, (202) 272–6838.

Subpart III—National/Multi-State Programs

Purpose

National/Multi-state programs address national priorities and initiatives that cannot be met through the State Block Grant Program. They reflect priorities or gaps in criminal justice funding that cannot be met from other sources.

Program Title: Demand Reduction—Drug Prevention.

Background: Federal, state and local governments have increased their enforcement, apprehension and eradication budgets substantially over the past eight years to stop the flow of illegal drugs into the United States as well as to stop the production from within. There is evidence that we will never comletely stop illegal drug suppliers and that our efforts must be directed toward the demand side of the problem. We must identify basic and unique approaches for school, churches, communities and citizens to get involved in reducing the demand for drugs by our citizens. Traditional scare tactics have not proved to be effective and letting specialized agencies deal with the problem alone does not appear to be the solution either.

The Drug Enforcement Administration and F.B.I. since 1984 have been involved in Demand Reduction Programs utilizing recognizable athletes in Public Service Announcements and Sports and Drug Awareness programs in schools. The response has been favorable and deserves more attention. DEA/FBI are proposing that in every field office in the country there will be a Demand Reduction Program Specialist. They have increased their central office staff to address the growing demand for local school program support and hve indicated that they will produce more recognizable "Sport-Super Star PSA's" in 1988. Demand Reduction programs in schools and the use of T.V. sports personalities to promote an anti-drug public service announcement may not be the program that turns around this epidemic of drug dependent citizens but it may be one that is effective for some. There is evidence that children and teens are influenced by their sports heroes, listen to their advice and try to emulate them as a role model.

Goal/Objectives: The goal of this program is to provide the technical assistance and training to all DEA/FBI field officers in order to have a Demand Reduction Specialist Program capability. The objective is to utilize the strengths of all three federal agencies to promote quality athletic superstar/McGruff Demand Reduction public service announcements aimed at the youth of America.

Program Description: This project will be a joint effort between the Drug Enforcement Administration, Federal Bureau of Investigation and the Bureau of Justice Assistance. An inter-agency agreement will result in Demand Reduction training and technical assistance provided to all DEA/FBI field officers as well as a national conference for school officials to participate in Sports and Drug Awareness Program training. Both agencies will work closely with BJA and the McGruff campaign on a series of new "sports heroes" anti-drug service announcements.

BJA will also coordinate with numerous public and private agencies in the filming of a 30 minute Motor Sports Anti-Drug video designed for high school audiences.

Grant Period: The Award is for 12 months beginning July 1987 and completed June 1988.

Award Amount: The program will not exceed $225,000.

Program Contact: The Bureau of Justice Assistance contact for further information regarding this program is Ronald Steger, (202) 272-6838.

Program Title: National Crime Prevention Campaign.

Background: Partnerships have developed across America between law enforcement, citizens, other local government resources and local business united in positive activities to combat crime. It is now estimated that 23 million American citizens participate in some kind of neighborhood crime watch activities in 30,000 communities across the country. Programs include Neighborhood Watch, Business Watch, Teen Programs, Escort Services for the elderly, Safe homes for children, Home security, Crime prevention public education, Arson prevention and Urban Rural crime prevention. Citizens and law enforcement working together with other local government and community resources have had an impact on restoring a sense of security to communities, schools, and the work place.

The National Citizens Crime Prevention ("McGruff" our National Crime Prevention symbol) Campaign provides a national focus on these diverse and effective efforts. This Campaign initiated in 1978 by the Office of Justice Assistance, Research and Statistics and the National Advertising Council, Inc., continues today with funding by both the Bureau of Justice Assistance and the private sector. The Secretariat for the "McGruff" campaign is the National Crime Prevention Council (NCPC) a non-profit organization that provides technical assistance, training and materials to support state, local, and national programs and the National Crime Prevention Coalition.

A recent market research, public awareness and attitude study (D.F.S. Dorland Worldwide—commissioned by BJA/OJP) found that children 6–12 had a 99% recognition factor for McGruff and 97% said they tried to do what he told them. Recognition was 98%—13 to 18 years old; 90% 19 to 34; 76%—35 to 54 and 52% for those 55 years of age and older. McGruff is now one of the most recognized characters in our country and serves as a positive call for action to prevent crime and from becoming a victim of crime.

The Bureau of Justice Assistance in a cooperative agreement with the National Crime Prevention Council, develops, distributes and promotes crime prevention Public Service announcements, technical assistance/ training and materials to support citizens activities aimed at impacting crime through crime prevention.

Goal Objectives: To develop and disseminate in the most cost effective manner crime prevention materials, through public service advertising for T.V., radio, and newsprint; technical assistance and training; a clearinghouse for storage and dissemination of crime prevention materials to the public, workshops and local/national demonstration programs.

Through this BJA/NCPC Cooperative Agreement, the following objectives will be achieved:

- Support for the National "McGruff" Campaign. Current national issues identified by state and local governments and national associations will be translated into media campaigns and supported by quality follow-up materials. $75 million worth of free public advertising will be secured from this BJA effort. Drug prevention will be a major effort.
- Provide crime prevention public awareness and positive action opportunities through "How to Kits", newsletters, monographs, and booklets.
- Expand technical assistance to BJA crime prevention block grant recipients to include state crime prevention association and program members, coalition members and citizens seeking advice and assistance.

Assistance to citizens, states, etc. will be provided through:

- A National Resource Library of current crime prevention literature, including pamphlets, brochures, slides, etc. (currently over 2,500 pieces are available for dissemination).
- A National computer center housing information on over 25,000 active crime prevention programs.
- Comprehensive package of crime prevention materials designed specifically for BJA block grant recipients and crime prevention practitioners.
- Topical workshops and seminars on Crime Prevention. They will include: Comprehensive planning skills, youth crime prevention, and Neighborhood Watch; conducted geographically across the country for basic and advanced programs.
- A partnership with "National Night Out."
- Crime prevention curriculum assistance including design of specific topical lesson plans to assist law enforcement training academies throughout the country. A joint effort with the International Society of Crime Prevention Practitioners.
- A national research and policy forum for the crime prevention practitioner. Efforts would include: One National Roundtable Workshop for state association and state program policy makers; development of crime prevention "How to Kits"; a State advisory council for guidance of NCPC and national issues; and various task forces called by NCPC/BJA to focus on a specific issue or problem.

Amount of Award: For the purpose of implementing these national initiatives, BJA will enter into a 12-month Cooperative Agreement (October 1, 1987–September 1988) with the National Crime Prevention Council, in an amount up to $1.275 million, matched by $500,000 of private funds.

Program Contact: The Bureau of Justice Assistance contact for additional information on this program is Ronald Steger, (202) 272–6838.

Program Title: Impact Analysis of National Crime Prevention Campaign Materials.

Background: The National Crime Prevention Council since 1980 has produced approximately 75 different types of crime prevention materials on different subjects. Each is aimed at helping citizens take a positive and active part in keeping themselves, their families or the neighborhood safer. Crime Prevention practitioners, local and Federal agencies and private business have all praised NCPC for the quantity and quality of these materials. There have been numerous news accounts of citizens that have been helped as a result of reading these pamphlets, monographs, kits, or booklets which have been disseminated widely throughout the United States.

The commitment from BJA and its predecessors, OJARS and LEAA, to support the National Citizens Crime Prevention Campaign and NCPC as the secretariat, for the creation and distribution of crime prevention materials has been substantial. In an effort to determine the effectiveness of the funding which the BJA is placing into the NCPC activities, an evaluation was begun in September 1986. The scope of these endeavors was limited to the management and administration of NCPC in order to determine if the program was responsive to the needs of the Citizens Campaign and McGruff. Further, it was charged with determining the success of the technical assistance and training which NCPC provides to states, localities, federal agencies and coalition members. Current funding prohibited a thorough analysis of the impact NCPC materials have on citizen crime prevention action or non-action.

Goal/Objective: The goal of this research is to analyze the numerous

crime prevention materials published by NCPC and to determine the impact they have on the citizen, organization, local governments, states, federal agencies and coalition members. The research will include direct action taken as a result of a publication as well as action that was a result of what someone took from NCPC re-produceables that are now in a different text or format.

Program Description: BJA will add to an existing contract with the Institute for Social Analysis for the purpose of conducting this impact study. All materials developed by NCPC will be analyzed nationwide to determine use, impact, and spill-over effect—where the material is used but not in its original format or text. Crime Prevention Practitioners, citizens, local governments, etc. will participate in this research. The analysis will also include "free" vs "for sale" distribution methods. The primary goal of the National Citizen Campaign and McGruff is to produce reusable, quality, crime prevention materials to the citizens of our country. This research will provide us information to determine how and when they are used as well as the best format for distribution.

Grant Period: The contract period will be 12 months beginning August 1, 1987 and conclude July 30, 1988.

Award Amount: BJA will add on to the current Instutute for Social Analysis contract $100,000 for their project.

Program Contact: The Bureau of Justice Assistance contact for additional information on this program is Ronald Steger (202) 272–6838.

Program Title: Drug Prevention Programs in the Television Industry.

Background: Television programming has a tremendous impact on the perceived and actual values of our society. There is evidence to support that behavior of the public, especially the youth, can be directly linked to continuous direct and indirect suggestions of acceptable attitudes promoted on T.V. Efforts by civic groups and national organizations to influence what is aired and at what time have increased over the years. Today, we find our country experiencing a drug abuse problem which has achieved national status and found support at the White House for appropriate action.

President Reagan, on October 31, 1986, addressed over 1300 members of the television industry about the dangers of drugs. The following day 500 key industry professionals met to discuss television and the substance abuse problem and what they could do to influence the industry. A permanent substance abuse committee has been formed to oversee a year long effort by the Academy of Television Arts and Sciences. Financial donations and contracts have already been received to begin a program which will begin in the summer of 1987.

Goal and Objectives: This program will provide resources for information and technical support to influence the airing of anti-drug public service announcements on primetime television.

Program Description: Through a Cooperative Agreement, the Academy of Television Arts and Sciences Foundation (a501c[3]) will begin a compaign which will include, but not be limited to, the following:

- An outreach program to all 24 professional groups within the Academy to achieve the highest level of cooperativon and support in deglamorizing the depiction of drugs on television. Individual meetings with key personnel at all major independent studios will be held. The results could be very effective. The typical primetime television program reaches more than 30 million viewers. These messages would be the most cost effective.
- A resource bank will be formed and housed at the Academy. Through this operation, the creative community will be able to obtain information and technical support for the production of television programs which deal with the drug problem.
- Contact would be made on a systematic basis with television broadcast organizations to encourage airing of public service announcements. It is anticipated that the Academy will conduct a screening process so that a specific list of spots that meet the highest professional standards can be developed.
- The Academy will have continuous liaison with other major antidrug organizations to ensure the integrity and overall effectiveness of the campaign.
- The Academy will develop specific new awards or cooperate with existing agencies which give awards for television programs which effectively deal with substance abuse issues. It is possible that these awards or award may be presented the Primetime Emmy Awards program.

Grant Period: The Cooperative Agreement will be for 12 months beginning August 1987 through June 1988.

Award Amount: The sole source Cooperative Agreement to the Academy of Television Arts and Sciences Foundation will be made in the amount of $50,000.

Program Contact: The Bureau of Justice Assistance contact for additional information on this program is Ronald Steger, (202) 272–6838.

Program Title: Support for Law Enforcement Accreditation.

Background: The Bureau regards accreditation as one of the most significant development in law enforcement. BJA and its predecessor agencies have provided support throughout the history of the Commission on Accreditation for Law Enforcement Agencies. The instant award which continues this policy, represents a small fraction of the Commission's annual budget. The Commission on Accreditation for Law Enforcement Agencies has been accepting applications from agencies for accreditation only since October, 1983. The Commission was formed in 1979 by the four major law enforcement membership organizations: The National Association of Black Law Enforcement Executive (NOBLE), the Police Executive Research Forum (PERF), the International Association of Chiefs of Police (IACP) and the National Sheriffs' Association (NSA). These organizations, acting unanimously, appoint the members of the Commission, who make the policy decisions that govern the voluntary process. The Commission's first task were to research and develop law enforcement standards, and establish the process for assessing and certifying applicant agencies.

Today, over 500 law enforcement agencies are voluntarily enrolled in the accreditation process, and 42 agencies have been accredited. Several thousands of agencies remain outside the program.

Goal Objective: This award will enable the Commission to develop and implement informational tools to reach many more officials with an adequate up-to-date explanation of accreditation, the advantages it offers to the agencies and to the community, and an explanation of the process itself, which is complex and formidable. Better understanding and an increase in the rate of applications for accreditation should result. The end goals include: increasing agency capabilities to prevent, control, and investigate crime; increased effectiveness and efficiency in traditional public services; and increased public confidence in the law enforcement agencies.

Program Description: The Bureau will negotiate with the Commission an information program that will reach the widest range of law enforcement executives, plus a range of other key elected and appointed official who affect or are affected by law enforcement policies and practices, and to a lesser extent, the general public. This will include an overall outreach

strategy, identification of publications, tapes, slides, etc. to be developed, and scheduling of key events and activities for a twelve month period, to the extent practicable. After award, the program will be monitored through completion and the effect on agency acceptance and application rates will be observed.

Grant Period: Project period will be twelve months.

Award Amount: The award will not exceed $100,000.

Eligiblity Ceiteria: The Commission on Accreditation for Law Enforcement Agencies will receive this continuation award.

Due Date: Application to be received by June 30, 1987.

Program Contact: Fred W. Becker, 202/272–4605, is the BJA program manager.

Program Title: Law Enforcement Policy Resource Center.

Background: Law Enforcement agencies, from the smallest to the largest, are a product of myriad policies that impact on every activity and action of the agency. Astute officials must constantly review and assess their policies against the dynamics of legal, social-economic and other changes that impact them and their communities. Some agencies are better equipped with the resources necessary to develop and implement adequatre policies and procedures than others. Many smaller agencies find it paracticularly difficult to deal with the challenge, good intentions, notwithstanding. On the other hand, the largest agencies have the challenge of overcoming the momentum or inertia of a large bureaucracy, and there is a tendency to stay with the old ways. However, all share an interest in learning what other successful agencies are doing, especially about critical issues of the day. The Bureau has also experienced wide interest in deadly force policies, and has observed a significant need for policy development assistance, in the course of a BJA TA/training cooperative agreement with the International Association of Chiefs of Police.

Goal Objective: The objectives of the project are to develop good model policies for law enforcement agencies and to effectively disseminate them to the law enforcement community, and to devise and provide means to effectively utilize existing policies and policy development experience on a multi-agency or cross-agency basis. The project should provide a means and mechanism for prioritizing policies for development. The Policy Center established by this grant should also be able to develop/disseminate other important policy related documents, e.g. program briefs and model legislation. An estimated ten to fifteen (10–15) percent of the project effort would be so directed.

Program Description: The Bureau will make an award to support the activities necessary to meet the above objectives, as refined and defined in the winning proposal. The project will be funded for 18 months. It is anticipated that there will be a start-up period of 90 days, and 15 months of operation. Although the bureau can make no indication of future funding, it can not be supposed that the need for model policies will cease up completion of this project. Therefore, proposers may address their capacity for an interest in continuing the Policy Center, in whole or in part, through alternative funding, after the grant period. In similar vein, consideration might be given to fees for services or other possible means of offsetting program expenses. Proposals should address all of the objectives described above, providing appropriate details as to goals, means, methods, and resources.

Grant Period: A grant period of 18 months is contemplated.

Award Amount: The award amount is not to exceed $500,000.

Eligibility Criteria: Law enforcement associations, that have an established national reputation, are eligible to apply.

Due Dates: Applications are due to BJA no later than June 13, 1987.

Program Contact: Inquiries about this program should be directed to Fred W. Becker, Program Manager, 202/272–4605.

Victim Assistance

Discretionary funds have been made available to the Office for Victims of Crime (OVC) for the purpose of implementing programs for victim assistance within the intent of the JAA legislation.

Program Title: Family Violence Prevention

Background: A cooperative agreement was awarded to the Task Force on Family in crisis to: Train state chairmen, select demonstration sites and training site directors; establish Community Task Forces and develop community plans; develop, print, and distribute brochures, fact cards and newsletter; produce an educational video tape on domestic violence to be broadcast on cable networks and shown to community groups; and assemble a directory of services for families experiencing abuse.

Goal Objective: The purpose of this cooperative agreement is to educate and activate segments of the population, who have not been pereviously involved, on the issue of family violence and develop community plans to strengthen families and prevent family violence. Public education and awareness about the dynamics of family violence and effective methods of intervention and prevention are primary goals.

Program Description: The Task Force on Families in Crisis has established in five sites, a Community Task Force composed of representatives of the law enforcement/criminal justice system, local government, business, religious, civic and volunteer organizations to assess the family violence problem in their communities; the level of services presently available, and services needed; and develop a plan of activities to strengthen families and help prevent family violence. The Task Force on Families in Crisis is developing a public awareness program to educate the public on the problem of family violence and the need for effective intervention and prevention and is encouraging public support for the remedies and prevention programs recommended in the Final Report of the Attorney General's Task Force on Family Violence. The Task Force on Families in Crisis is also compiling a directory of private services for families and victims of family violence including safe home networks, crisis centers, family life centers, shelters, and counseling programs for abusers, and will make this available to the National Victims Resource Center when it is completed.

Grant Period: The period of award is 12 months.

Award Amount: The award is for $293,109.

Eligibility Criteria: The cooperative agreement with the Task Force on Families in Crisis will be continued.

Program Contact: The program contact within the Office for Victims of Crime is Susan Hay, (202) 272–6500.

Program Title: Spouse Abuse Prevention.

Background: The Attorney General's Task Force Report on Family Violence included recommendations which indicated that family violence, including spouse abuse, is a serious problem in the United States and that intervention and proper treatment for the victims was vitally important to interrupt the "cycle of violence." Many of these recommendations must be implemented at the State and local level and involve enducating both professionals and the general public about family violence.

Illinois Coalition Against Domestic Violence (ICADV) is one of the oldest and largest state coalitions in the country and possesses an extensive record in the development of shelter

services, educational material, and training.

Goal Objective: This project is designed to improve and enhance the awareness of the public and the ability of the public to respond, in a sensitive and effective manner, to victims of domestic violence. The project will develop and publish brochures, a media packet, informational newsletters, innovative program descriptions, and protocols. Three training sessions will be conducted and these sessions are designed to utilize the printed material developed by the project in an effort to improve the service providers' response to domestic violence.

Program Description: The project is committed to informing the general public about the nature of domestic violence and its impact on the next generation. The project will assist battered women identify the necessary resources required to confront their situations and will also develop and share techniques, processes, and human services' response to domestic violence.

Grant Period: The award period is for 18 months.

Award Amount: The award amount is for $294,999.

Project Contact: The program contact is John Veen, Office for Victims of Crime, National Victims Initiative (202) 272–6500.

Program Title: National Network and Services Development.

Background: During the past several years, the dramatic increase in public awareness of victim needs and issues has resulted in major changes in State laws effecting victims and victim assistance programs across the country. Over 500 programs have applied for funds as a result of the Victims of Crime Act.

The role of N.O.V.A. in victim assistance is part of a comprehensive national agenda to ensure just and appropriate treatment of crime victims. The rapid growth of the field demands both basic training and continuing education in order to ensure high quality, well directed programs and services. N.O.V.A. has dedicated, and will continue to dedicate, its resources to victim issues and the improvement of programming and services to address these issues.

Goal/Objectives: This program is designed to develop and present two series of training seminars for victim service providers. The first will be a series of four three-day seminars, two on advocacy/counseling and two on program management, for both beginning and more experienced victim service agency staff and volunteers. The second type of training will be specialized training for states and localities that want to develop crisis response teams to provide assistance in the event of a community—wide crisis stemming from the commission of a violent crime. N.O.V.A. will continue several key functions, including tracking state legislation relating to critical victim issues, information and referral services, assistance for interjurisdictional victims of crime, and weekly peer-group counseling sessions for elderly crime victims.

Program Description: The program was funded to establish a link in the chain of comprehensive victim assistance and to increase the professionalism of the field of victim assistance. The program will train victim service providers and strengthen the bond between the criminal justice professionals and victim services providers by ensuring that the victim service providers are informed of the state of the art in victim assistance and can respond appropriately to victims seeking help.

Grant Period: The grant period is for 12 months.

Award Amount: The award amount is for $400,000.

Program Contact: The program contact is Deborah Feinstein, Office for Victims of Crime, National Victims Initiative (202) 272–6500.

Program Title: National Victims Resource Center.

Background: The National Victims Resource Center (NVRC) was established in the Office for Victims of Crime, Office of Justice Programs, in response to a specific recommendation of the President's Task Force on Victims of Crime which states that "the Federal government should establish a federally based resource center for victim and witness assistance". The National Victims Resource Center is essential because there are few sources of reliable comprehensive information on crime victim subjects found in the public and private sectors.

Goal/Objective: The National Victims Resource Center is responsible for clearinghouse services, referrals and information to the public on victim assistance and compensation programs.

Program Description: The National Victim Resource Center is the only resource center devoted to victim issues in the Federal government, and as such serves as a clearinghouse of information on victim assistance and compensation programs, victim advocacy groups and a variety of printed information for and about victims of crime. The NVRC is available to assist many different groups and individuals who need information to augment or implement programs to help victims. The NVRC will be developing and maintaining a computerized national program data base containing descriptions of all types of programs that provide direct assistance to victims. The NVRC will be collecting and maintaining data collected from the Victims of Crime Act of 1984 grantees.

Grant Period: The grant period is for 16 months.

Award Amount: The award amount is for $115,722.

Program Contact: The program contact is Cindy Stein, Office for Victims of Crime, National Victims Resource Center (202) 724–5947.

Subpart IV—General Requirements

a. *Match.* Grants may be awarded for up to 100 percent of program or project costs.

b. *Eligibility.* Public agencies and private non-profit organizations are eligible to apply. Specific eligibility requirements will be set forth in individual announcements.

c. *Period of Support.* Grants may support projects for up to three years and may be renewed for an additional two years if an evaluation indicates that the project has been effective and if the grantee agrees to provide at least one-half of the total cost of the project.

d. *Financial Requirements.* Discretionary grants are governed by the provisions of the Office of Management and Budget (OMB) Circulars applicable to financial assistance. The Circulars along with additional information and guidance are contained in the "Financial and Administrative Guide for Grants" OJP Guideline Manual, OJP M7100.1C, available from the Office of Justice Programs.

e. *Non-Discrimination.* The Justice Assistance Act provides that no person shall be excluded from participation in, denied the benefits of, subjected to discrimination under, or denied employment in connection with any activity funded in whole or in part with funds made available under the Act. Applicants for discretionary grants are also subject to the provisions of the Title VI of the Civil Rights Act of 1964; section 504 of the Rehabilitation Act of 1973, as amended; Title XI of the Education Amendments of 1972; the Age Discrimination Act of 1975; and the Department of Justice Non-Discrimination Regulation 28 CFR Part 42, Subpart C, D, E, and G.

George A. Luciano,

Director.

[FR Doc. 87–10334 Filed 5–5–87; 8:45 am]

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NUCLEAR REGULATORY COMMISSION

Bi-Weekly Notice Applications and Amendments to Operating Licenses Involving No Significant Hazards Considerations

I. Background

Pursuant to Public Law (P.L.) 97-415, the Nuclear Regulatory Commission (the Commission) is publishing this regular bi-weekly notice. P.L. 97-415 revised section 189 of the Atomic Energy Act of 1954, as amended (the Act), to require the Commission to publish notice of any amendments issued, or proposed to be issued, under a new provision of section 189 of the Act. This provision grants the Commission the authority to issue and make immediately effective any amendment to an operating license upon a determination by the Commission that such amendment involves no significant hazards consideration, notwithstanding the pendency before the Commission of a request for a hearing from any person.

This bi-weekly notice includes all amendments issued, or proposed to be issued, since the date of publication of the last bi-weekly notice which was published on April 22, 1987 (52 FR 13331) through April 24, 1987.

NOTICE OF CONSIDERATION OF ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSE AND PROPOSED NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION AND OPPORTUNITY FOR HEARING

The Commission has made a proposed determination that the following amendment requests involve no significant hazards consideration. 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 basis for this proposed determination for each amendment request is shown below.

The Commission is seeking public comments on this proposed determination. Any comments received within 30 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 Rules and Procedures Branch, Division of Rules and Records, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, DC 20555, and should cite the publication date and page number of this **Federal Register** notice. Written comments may also be delivered to Room 4000, Maryland National Bank Building, 7735 Old Georgetown Road, 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, 1717 H Street, NW., Washington, DC. The filing of requests for hearing and petitions for leave to intervene is discussed below.

By June 5, 1987 the licensee may file a request for a hearing with respect to issuance of the amendment to the subject facility operating license 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 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 which 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.

If a hearing is requested, the Commission will make a final determination on the issue of no significant hazards consideration. 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 consideration, the Commission may issue the amendment and make it immediately effective, notwithstanding the request for a hearing. Any hearing held would take place after issuance of the amendment.

If the final determination is that the amendment involves a significant hazards consideration, 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 30-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 amendment before the expiration of the 30-day notice period, provided that its final determination is that the amendment involves no significant hazards consideration. The final determination will consider all public and State comments received before action is taken. Should the Commission take this action, it will publish a notice of issuance and provide for opportunity for a hearing after 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, 1717 H 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 (800) 325-6000 (in Missouri (800) 342-6700). The Western Union operator should be given Datagram Identification Number 3737 and the following message addressed to (*Project Director*): 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-Bethesda, U.S. Nuclear Regulatory Commission, Washington, DC 20555, and to the 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 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 amendment which is available for public inspection at the Commission's Public Document Room, 1717 H Street, NW., Washington, DC, and at the local public document room for the particular facility involved.

Arizona Public Service Company et al., Docket Nos. STN 50-528, STN 50-529, and STN 50-530, Palo Verde Nuclear Generating Station (PVNGS), Units 1, 2 and 3, Maricopa County, Arizona

Date of amendment request: April 6, 1987

Description of amendment request: The proposed amendments consist of a proposed change to the Technical Specifications (Appendix A to Facility Operating License Nos. NPF-41 for PVNGS, Unit 1, NPF-51 for PVNGS, Unit 2, and NPF-65 for PVNGS Unit 3).

Technical Specification 3.4.3.1 currently requires at least two groups of pressurizer heaters capable of being powered from Class 1E buses, each having a nominal capacity of at least 150 kW. The proposed amendment would change this requirement to two groups of heaters having a minimum capacity of 125 kW. The surveillance requirements would also be revised accordingly.

Basis for Proposed No Significant Hazards Consideration Determination: The Commission has provided standards for determining whether a significant hazards consideration exists as stated in 10 CFR 50.92. A proposed amendment to an operating license for a facility involves no significant hazards considerations if operation of the facility in accordance with a proposed amendment would not: (1) Involve a significant increase in the probability or consequences of an accident previously evaluated; (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.

A discussion of the proposed change, as it relates to these standards is presented below.

Standard 1-Involve a Significant Increase in the Probability or Consequences of an Accident Previously Evaluated.

The proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated since the pressurizer heaters are not classified as safety grade at PVNGS and no credit is taken for them in any of the accidents previously evaluated. Therefore, the probability or consequences of an accident previously evaluated will not be significantly increased.

Standard 2-Create the Possibility of a New or Different Kind of Accident from any Accident Previously Evaluated.

The proposed change will not create the possibility of a new or different kind of accident from any accident previously evaluated. This change does not involve any changes to plant equipment or plant operation. Therefore, the possibility of a new or different kind of accident from any accident previously analyzed will not be created.

Standard 3-Involve a Significant Reduction in a Margin of Safety.

The proposed change will not involve a significant reduction in a margin of safety since the amount of pressurizer heater capacity to be verified in the proposed revised surveillance requirement is greater than the capacity required to satisfy the basis in the Technical Specifications for the pressurizer heaters. In addition, the measured value of pressurizer heat loss is 118 kW, so that a pressurizer heater capacity of 125 kW is sufficient to offset heat loss. Therefore, a significant reduction in a margin of safety is not involved.

Accordingly, the Commission has proposed to determine that the above change does not involve a significant hazards consideration.

Local Public Document Room location: Phoenix Public Library, Business, Science and Technology Department, 12 East McDowell Road, Phoenix, Arizona 85004.

Attorney for licensees: Mr. Arthur C. Gehr, Snell & Wilmer, 3100 Valley Center, Phoenix, Arizona 85007.

NRC Project Director: George W. Knighton

Arizona Public Service Company et al., Docket No. STN 50-530, Palo Verde Nuclear Generating Station (PVNGS), Unit 3, Maricopa County, Arizona

Date of amendment request: January 23, 1987

Description of amendment request: The proposed amendment consists of a proposed change to the Technical Specifications (Appendix A to Facility Operating License No. NPF-65 for PVNGS, Unit 3). The proposed change would make the surveillance requirements in Technical Specification 4.6.4.2 for the hydrogen recombiner power control cabinets consistent with the expanded testing regimen prescribed by the vendor. The function of the hydrogen recombiner is to maintain the hydrogen concentration within containment below its flammable limit in the event of a loss-of-coolant accident. The purpose of the surveillance requirements is to ensure the operability of the equipment in the event that it is needed.

A similar amendment request was noticed for PVNGS, Units 1 and 2 in the **Federal Register** (52 FR 4402) on February 11, 1987. PVNGS, Units 1, 2 and 3 will use the same hydrogen recombiner system.

Basis for Proposed No Significant Hazards Consideration Determination: The Commission has provided guidance concerning the application of standards for determining whether a significant hazards consideration exists by providing certain examples (51 FR 7751) of amendments that are considered not likely to involve significant hazards considerations. Example (ii) in 51 FR 7751 is a change that constitutes an additional limitation, restriction or control not presently included in the Technical Specifications; e.g., a more stringent surveillance requirement. The proposed amendment request is similar to Example (ii) in 51 FR 7751 since the request involves expanded surveillance testing for the hydrogen recombiner

power control cabinets to be consistent with vendor recommendations. Therefore, the Commission proposes to determine that the proposed amendment does not involve any significant hazards considerations.

Local Public Document Room location: Phoenix Public Library, Business, Science and Technology Department, 12 East McDowell Road, Phoenix, Arizona 85004.

Attorney for licensees: Mr. Arthur C. Gehr, Snell & Wilmer, 3100 Valley Center, Phoenix, Arizona 85007.

NRC Project Director: George W. Knighton

Boston Edison Company, Docket No. 50-293, Pilgrim Nuclear Power Station, Plymouth County, Massachusetts

Date of amendment request: January 19, 1987 as supplemented on January 27, and February 25, 1987.

Description of amendment request: The proposed amendment will provide a tolerance to the test success criteria for the Control Room High Efficiency Air Filtration (CRHEAF) System in Technical Specification (TS) Section 4.7.B.2.a by allowing the use of a procedural curve relating differential pressure across the filter bank to air flow of 1000 cfm plus or minus 10% as bounded by TS 3.7.B.2.d. The change also reduces the differential pressure criteria for filter replacement from 8 to 6 inches of water.

Basis for proposed no significant hazards consideration determination: The Commission has provided standards for determining whether a significant hazards determination exists as stated in 10 CFR 50.92(c). 10 CFR 50.91 requires that at the time a licensee requests an amendment it must provide to the Commission its analysis, using the standards in 10 CFR 50.92, about the issue of no significant hazards consideration. Accordingly, the licensee has provided the following analysis:

1. Operating Pilgrim Station in accordance with the proposed amendment will not involve a significant increase in the probability of consequences of an accident previously evaluated.

The CRHEAF creates a positive pressure in the Control Room, using air from which it has filtered out radioiodines and particulates. Currently, TS 4.7.B.2.a requires that at least once every 18 months a pressure drop of less than 8 inches of water be demonstrated across the filters at a flow rate of 1000 cfm. TS 3.7.B.2.d requires that CRHEAF fans operate within 1000 cfm plus or minus 10%. The system is designed to provide a positive Control Room pressure if the fans can provide a flow rate of 900 to 1100 cfm and the filters are not plugged. Vendor information indicates that filter degradation from plugging is indicated by a differential pressure of 3 inches or greater of water across each HEPA filter. Therefore, when measured across two HEPA filter elements, and the rest of the CRHEAF components which create differential pressure, a differential of less than 6 inches of water demonstrates that HEPA plugging has not reached action levels. Hence, if the fans can generate 900 to 1100 cfm to satisfy TS 3.7.B.2.d, and has a pressure drop across the filter trains less than 6 inches at 1000 cfm or the calculated equivalent, sufficient flow exists to provide a positive pressure in the Control Room. Therefore, the purpose of the CRHEAF as a mitigator of the results of an accident will not be impaired by this proposed change. Hence, allowing the differential pressure of 6 inches of water 1000 cfm to be established at flow rates between 900 and 1100 cfm in conformance with a calculated procedural acceptance curve will not involve a significant increase in the probability or consequences of an accident previously analyzed.

2. Operating Pilgrim Station in accordance with the proposed amendment will not create the possibility of a new or different kind of accident from any accident previously evaluated.

The purpose of CRHEAF is to mitigate the consequences of certain accidents by filtering out radioiodines and particulates from air which is then used to maintain a positive pressure in the Control Room. The amendment allows a tolerance by allowing a calculated value, based on 6 inches of water at 1000 cfm, to be used for demonstrating that the filter train elements are not plugged. The flow range for the calculated value is 900-1100 cfm, determined by existing TS 3.7.B.2.d.

The change to 6 inches of water from 8 inches is in compliance with vendor information, and is more conservative because the action level for the filters is reached earlier. The change of these criteria therefore is consistent with the design and fan capabilities of the system, and does not degrade the system's ability to perform its design function of providing positive pressure in the Control Room with filtered air; therefore, operating Pilgrim in accordance with the proposed change will not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Operating Pilgrim Station in accordance with the proposed amendment will not involve a significant reduction in the margin of safety. The proposed change does not reduce the CRHEAF System's ability to perform its design function of creating a positive pressure in the Control Room with filtered air. Hence, accident analyses which take credit for CRHEAF as a mitigator are not affected and the safety margin remains the same. Therefore, the operation of Pilgrim in accordance with the proposed amendment to TS 4.7.B.2.a will not involve a significant reduction in the margin of safety.

The staff has reviewed the licensee's no significant hazards determination and agrees with the licensee's analysis. Therefore, based on the above, the staff has made a proposed determination that the application for amendment involves no significant hazards consideration.

Local Public Document Room location: Plymouth Public Library, 11 North Street, Plymouth, Massachusetts 02360.

Attorney for licensee: W. S. Stowe, Esq., Boston Edison Company, 800 Boylston Street, 36th Floor, Boston, Massachusetts 02199.

NRC Project Director: Victor Nerses

Duke Power Company, Docket Nos. 50-269, 50-270 and 50-287, Oconee Nuclear Station, Units 1, 2, and 3, Oconee County, South Carolina

Date of amendment request: February 6, 1986, as supplemented on August 20, 1986

Description of amendment request: The proposed amendments would revise the Station's common Technical Specifications (TSs) 4.5.2.1.1(a)-reactor building spray (RBS) system to test only the initiation control circuitry without actually energizing the pump. The licensee proposes to eliminate the need for valve line-up and pump operation which constitutes a redundant test to the Inservice Testing (IST) program at the Oconee Nuclear Station, Units 1, 2 and 3.

The RBS and the reactor building cooling system remove heat from containment following an accident. These systems prevent building pressure from exceeding design pressure. The RBS system serves no function during normal operation. Removal of post-accident energy is accomplished by directing borated water spray into the reactor building atmosphere.

The RBS system consists of two pumps, two spray headers, isolation valves, and the necessary piping, instrumentation, and controls. The pumps and remotely operated valves for each unit can be operated from the control room. The RBS system is sized to furnish 100 percent of the design cooling capacity with both of the spray paths in operation. Both paths operate independently and the RBS system also operates separately from the reactor building cooling units, which independently possess full post-accident cooling capacity.

The present TS 4.5.2.1.1(a) requires that the RBS system be tested during each refueling outage to demonstrate proper operation of the system. To meet the existing TS and demonstrate operability of all system components without spraying the reactor building, each train of the RBS system must be tested twice, once with pump power isolated (to verify valve movement) and once with the valves inoperable (to verify pump operation). The TS requires that the RBS pump be started and that

water be circulated from the borated water storage tank through the pumps, the test-line and back to the tank. TS 4.5.2.2.1 requires that the RBS pumps be started and operated to verify proper operation in accordance with the requirements of TS 4.0.4 (which references the IST program).

The IST program requires verification of RBS pump operation every 3 months. The program tests inlet pressure, differential pressure, flow, vibration, lube oil level, and bearing temperature. Valve operation is verified at least once each refueling outage.

Testing with the pump breaker in "TEST" position allows the control circuitry to be tested without actually energizing the pump. This type of testing is permitted for the high pressure injection system (TS 4.5.1.1.1).

The proposed TS would eliminate a redundant test of the RBS system, requiring a test of the initiation control circuitry only and eliminate the requirement for valve line-up and pump operation which constitute a redundant test to Oconee's IST program.

Basis for proposed no significant hazards consideration determination: The Commission has provided standards (10 CFR 50.92(c)) for determining whether a significant hazards consideration exists. A proposed amendment to an operating license for a facility involves no significant hazards consideration if operation of the facility in accordance with the proposed amendment 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 licensee examined each accident analysis addressed in the Oconee Final Safety Analysis Report (FSAR) with respect to the proposed TS amendment. The licensee stated that because surveillance testing is not considered to be an initiator or a contributor to any design basis accident analysis addressed in the Oconee FSAR, the proposed TS change affects neither the probability nor the consequences of any design basis accident. On this basis, the Commission's staff concludes that the proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed change will not result in any plant modifications or operating procedures. It may actually reduce the possibility of error in valve line-up with reduced testing. Therefore, the proposed amendment will not create a new accident sequence. On this basis, the Commission's staff concludes that operation in accordance with the proposed amendment will not create the possibility of a new or different kind of accident from any accident previously evaluated.

Although the proposed TS change will eliminate the requirement of valve line-up and pump operation to demonstrate operability of the RBS system during refueling outages, testing of the initiation circuitry will be maintained. RBS pump and valve operability is assured by the IST program. The licensee states that valve operability is verified at least once each refueling outage, and pump operation is verified every 3 months. On this basis, the staff finds that the proposed amendments will not involve a significant reduction in a margin of safety.

Based on the above discussion, the staff proposes to find that the proposed license amendment request involves no significant hazards consideration.

Local Public Document Room location: Oconee County Library, 501 West Southbroad Street, Walhalla, South Carolina 29691

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NRC Project Director: B. J. Youngblood

Duke Power Company, Docket Nos. 50-269, 50-270, and 50-287, Oconee Nuclear Station, Units 1, 2, and 3, Oconee County, South Carolina

Date of amendment request: February 10, 1986, as supplemented August 20, 1986

Description of amendment request: The proposed amendments would revise the Station's common Technical Specifications (TSs) to change TS 3.1.12, "Reactor Coolant System Subcooling Margin Monitor." The reactor coolant system (RCS) subcooling margin monitors detect the effects of low reactor coolant level and the approach to inadequate core cooling. The proposed TS 3.1.12 would reflect the correct number of subcooling monitors presently installed, while maintaining all the requirements of the current TS 3.1.12. These monitors detect loop "A" temperature, loop "B" temperature, and core outlet temperature. The inoperability of the subcooling monitors is addressed in the proposed amendments by an action statement. The action statement requires restoration of at least one monitor to an operable status within 48 hours, or be in at least hot shutdown within the next twelve hours.

In addition, the proposed amendment deletes TS 3.1.12.1(c). The current TS 3.1.12.1(c) allows for inoperability of both subcooling monitors when there is an outage of the Operational Aid Computer (OAC) for less than 4 hours without requiring preparation of a 30 days report. However, a backup method for determining subcooled margin based on RCS temperature and pressure provides sufficient information to the operators for recognition of saturated conditions in the primary coolant system and warning of the approach to inadequate core cooling is available during the 4 hour inoperability period. TS 6.6.2, Non-Routine Reports-which provided requirements for reportable events was revised on January 9, 1985 referencing 10 CFR Part 50.73 requirements for reportable events.

The 30 days report was required by a previous version of TS 6.6.2 for conditions leading to operation in a "degraded mode" permitted by a limiting condition for operation or shutdown required by a limiting condition for operation. Following the issuance of the new Licensee Event Report Rule, 10 CFR Part 50.73, which does not require the reporting of degraded modes, TS 6.6.2 was also revised. The current version of TS 6.6.2 does not require the reporting of a degraded mode permitted by a limiting condition for operation, however, it references 10 CFR Part 50.73 requirements for reportable events.

TS 3.1.12.1(c) when developed, was meant to prevent the writing of a "degraded mode" report each time the OAC was out of service. Since degraded modes are no longer reportable to the NRC, TS 3.1.12.1(c) is no longer applicable.

The proposed TS 3.1.12.1 was prepared to reflect the correct number of subcooling monitors presently installed while maintaining all requirements of current TS 3.1.12.1. These monitors consist of loop "A" temperature, loop "B" temperature, and core outlet temperature. The proposed TS 3.1.12.1(c) addresses the inoperability of the subcooling monitors and provides an action statement to restore at least one monitor to an operable status within 48 hours, or be in at least hot shutdown within the next 12 hours.

Application of the revised TS 3.1.12.1 requirements ensures the operability of the subcooling margin monitors. In addition, should a subcooling monitor become inoperable because of an outage of the OAC, the alternate method of hand calculations based on reactor

coolant system pressure and temperature in a timely manner provides sufficient information to the operators for recognition of saturated conditions in the primary coolant system and warning of the approach to inadequate core cooling.

Basis for proposed no significant hazards consideration determination: The Commission has provided guidance concerning the determination of significant hazards considerations by providing certain standards (10 CFR 50.92 (c)). A proposed amendment to an operating license for a facility involves no significant hazards consideration if operation of the facility in accordance with the proposed amendment 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 TS involves a change that would reflect the correct number of RCS subcooling margin monitors currently installed while maintaining all the requirements of the previous TS and also delete TS 3.1.12.1(c). Each accident analysis addressed in the Oconee Final Safety Analysis Report (FSAR) has been examined by the licensee with respect to the proposed amendment. The probability of any Design Basis Accident (DBA) is not affected by this change, nor are the consequences of a DBA affected by this change, since the availability of three subcooling monitors provides an additional margin of safety over the previous two monitors.

The deletion of TS 3.1.12.1(c) will not involve a significant increase in the probability or consequences of a previously evaluated accident because TS 3.1.12.1(c) was used to prevent preparation of a 30 days report for outages of the OAC of less than 4 hours duration and, as such has no effect on the probability or consequences of an accident.

The proposed TS 3.1.12 reflects the correct number of subcooling monitors presently installed while maintaining all the requirements of the current TS 3.1.12. As such, this change represents an increase in the margin of safety in that three monitors are now available over the previous two.

The current TS 3.1.12.1(c) was prepared to prevent the preparation of a 30 days report for outages of the OAC of less than 4 hours duration, thus it has no impact on safety and will not create the possibility of an accident. Therefore, this proposal does not create the possibility of a new or different kind of accident from any accident previously evaluated.

The deletion of the current TS 3.1.12.1(c) does not involve a reduction in a margin of safety, because TS 3.1.12.1(c) was written to prevent the preparation of a 30 days report during every instance of inoperability of the OAC. During inoperability of the OAC, a backup method of hand calculations based on RCS temperature and pressure provides sufficient information to the operators for recognition of saturated conditions in the primary coolant system and warning of the approach to inadequate core cooling.

We have reviewed and agree with the licensee's statements. Therefore, the proposed action 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.

On this basis, the Commission proposes to determine that the application involves no significant hazards consideration.

Local Public Document Room location: Oconee County Library, 501 West Southbroad Street, Walhalla, South Carolina 29691

Attorney for licensee: J. Michael McGarry, III, Bishop, Liberman, Cook, Purcell and Reynolds, 1200 17th Street, NW., Washington, DC 20036

NRC Project Director: B. J. Youngblood

Duke Power Company, Docket Nos. 50-269, 50-270 and 50-287, Oconee Nuclear Station, Units 1, 2, and 3, Oconee County, South Carolina

Date of amendment request: October 13, 1986

Description of amendment request: The proposed amendments would revise the Station's common Technical Specifications (TSs) to change Table 4.4-1, List of Penetrations. The proposed amendments would require a Type C local leak test for penetration no. 22, low pressure service water (LPSW) from reactor coolant (RC) pump motors and lube oil coolers outlet.

The present TS Table 4.4-1 does not require a local leak test for penetration 22, low pressure service water from RC pump motors and lube oil coolers outlet. The lack of requirements was based on the belief that the pressure in this line outside valve LPSW-15 would be greater than 60 psig following engineered safeguards (ES) closure of this valve, with LPSW being in service. Subsequently, the licensee checked the pressure outside LPSW-15 and found it to be 12 psig or less with LPSW-15 closed. This datum invalidated the basis for not requiring a local leak test for penetration 22.

The licensee has made the determination that a Type C local leakage rate test should be performed on valve LPSW-15 to meet Appendix J requirements.

Basis for proposed no significant hazards consideration determination: The Commission has provided guidance concerning the application of the standards in 10 CFR 50.92 by providing certain examples (51 FR 7750). Example (vii) of the types of amendments not likely to involve significant hazards considerations is an amendment to make a license conform to changes in the regulations where the license change results in very minor changes to facility operations clearly in keeping with the regulations.

This change will assure that penetration 22 will meet the leak rate criteria of Appendix J, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors" and thereby providing additional assurance of the integrity of the penetration in the event of an ES actuation of valve LPSW-15.

Since the requested change results in minor changes to the facility operations clearly in keeping with the regulation and is therefore encompassed by the Commission's example (vii), it is not expected to involve a significant hazards consideration.

Since this application for amendment involves proposed changes that are similar to examples for which no significant hazards consideration exists, the Commission's staff has made a proposed determination that the application for amendment involves no significant hazards consideration.

Local Public Document Room location: Oconee County Library, 501 West Southbroad Street, Walhalla, South Carolina 29691

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NRC Project Director: B. J. Youngblood

Duquesne Light Company, Docket No. 50-334, Beaver Valley Power Station, Unit No. 1, Shippingport, Pennsylvania

Date of amendment request: January 15, 1986, revised by letters dated March 5, March 17 and April 6, 1987.

Description of amendment request: This is a re-notice since the licensee has sent in three revised submittals, as a result of the continuous evolution of the

subject matter, since the original one. The staff has published a notice on the original submittal (March 12, 1986, 51 FR 8590). The supplemental submittals do not change the nature of the amendment request, except as described below. Therefore, the previous notice is incorporated by reference.

In the letter of March 5, 1987, the licensee requested that Table 6.2-1, "Minimum Shift Crew Composition" be revised. A footnote would be added to the table to indicate that one qualified person would be employed to satisfy the requirements of the Shift Technical Advisor (STA) position for both Units 1 & 2. The language in the current specification requires that Unit 1 has its own STA. The licensee requested that Table 6.2-1 be revised to say that one qualified individual can be used to satisfy the STA requirements of both Units 1 & 2. The requested change is in accordance with the staff's position in NUREG-0737 regarding the STA for multi-unit plants and is needed as Unit 2 is expected to receive a license to operate. There will be no change in hardware, software or plant operation procedures.

Basis for proposed no significant hazards consideration determination: This pertains only to the additional request regarding the STA. The Commission has provided guidance concerning the application of these standards by providing certain examples (51 FR 7751). One of these, Example (ii), involving no significant hazards consideration is "A purely administrative change to the technical specifications . . . ." The change regarding the STA matches the example and the staff, therefore, proposes to characterize this amendment as involving no significant hazards consideration.

Local Public Document Room location: B. F. Jones Memorial Library, 663 Franklin Avenue, Aliquippa, Pennsylvania 15001

Attorney for licensee: Gerald Charnoff, Esquire, Jay E. Silberg, Esquire, Shaw, Pittman, Potts, and Trowbridge, 2300 N Street, NW., Washington, DC 20037

NRC Project Director: John F. Stolz

Duquesne Light Company, Docket No. 50-334, Beaver Valley Power Station, Unit No. 1, Shippingport, Pennsylvania

Date of amendment request: February 24, 1987

Description of amendment request: The amendment covers a number of areas in the Technical Specifications. The affected specifications are:

1. Section 4.2.2, "Heat Flux Hot Channel Factor Surveillance Requirement" would be revised by removing reference to specific grid plane regions. This change does not affect the fuel assembly description in the Final Safety Analysis Report (FSAR) and would not need any new analysis.

2. Table 3.3-1, items 7 and 8, the applicable action statement would be revised to make it consistent with the Standard Technical Specification. The change would have no effect on the FSAR.

3. Table 3.3-5, the response time for item 6.b, "Feedwater Isolation Due to Steam Generator Water Level--High-High" would be changed from less than or equal to 78.0 seconds to less than or equal to 13.0 seconds. This change would make Table 3.3-5 consistent with Table 3.6-1 and would not result in any need to revise the FSAR.

4. Table 3.3-6, Action Statement 36 would be revised to reflect specification 3.3.3.9 Action Statement b. on reporting requirements for inoperable channels. This is a correction of an error.

5. Sections 3.3.3.3, 3.5.2, 3.5.3 and 6.7.1 would be revised to reflect the reporting requirements of 10 CFR 50.72 and 10 CFR 50.73.

6. Table 4.3-6 would be revised to specify the times the source range instruments and residual heat removal temperature instrument must be operable. These changes are proposed in response to NRC Inspection Report 86-06. The changes do not affect the FSAR.

7.Section 6.9.1.14, "Radial Peaking Factor Limit Report," would be revised to correct the revised copy distribution to reflect the current NRC organization. This change is purely editorial.

8. Section 6.10.2, "Lifetime Record Retention" would be revised by deleting item 1 which references specification 6.13. In addition, items "m" and "n" would be renumbered to "l" and "m", respectively. This change is purely editorial.

9. Table 4.4-2, Steam Generator Tube Inspection, would be revised to correct the required NRC notification by reference to specification 6.6. This change is a correction.

10. Surveillance requirement 4.5.1.1.d would be deleted. The proposed change removes an unnecessary accumulator isolation valve surveillance requirement. It will not affect any FSAR analysis.

11. Surveillance requirement 4.6.1.1.a would be revised by adding a note, identical to one in the Standard Technical Specifications. The change would require position verification of certain containment penetrations be done during cold shutdown.

Basis for proposed no significant hazards consideration determination: The Commission has provided standards for determining whether a significant hazards consideration exists (10 CFR 50.92(c)). A proposed amendment to an operating license for a facility involves no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated; (2) create the possibility of a new or different kind of accident from an accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

The proposed changes would either correct an error, clarify certain points, make the technical specifications consistent with the regulation, or make them consistent with each other. None of these changes would affect any analysis in the FSAR and none of the changes are caused by or would cause a hardware change. Thus, there is no increase in the probability of occurrence or the consequences of an accident previously analyzed. These changes are administrative in nature and do not affect the operating procedures of the plant; therefore, these changes will not create the possibility of a new or different kind of accident from those described in the FSAR. Furthermore, no safety margin will be affected or reduced as a result of these changes.

Local Public Document Room location: B. F. Jones Memorial Library, 663 Franklin Avenue, Aliquippa, Pennsylvania 15001

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NRC Project Director: John F. Stolz

Florida Power and Light Company, Docket Nos. 50-250 and 50-251, Turkey Point Plant Units 3 and 4, Dade County, Florida

Date of amendments request: May 7, 1986, as supplemented on February 20, 1987 and April 23, 1987.

Description of amendments request: The proposed amendments would delete the specifications for the Auxiliary Feedwater (AFW) System and the Condensate Storage Tanks (CST) in current Technical Specification 3.8, Steam and Power Conversion Systems. Requirements for the AFW System and CST will be included in new Technical Specifications 3.18 and 3.19. The proposed specifications provide explicit limiting conditions for operation (LCO), applicability requirements, and ACTION requirements for operation of the AFW System and CST. The format (i.e., LCO,

applicability, ACTION requirements) is that of NUREG-0452, Standard Technical Specifications for Westinghouse Pressurized Water Reactors (WSTS), although the requirements in the proposed specifications differ from the WSTS because of the uniqueness of the Turkey Point Plant AFW System design (i.e., shared system, three turbine driven pumps, etc.)

The proposed amendments would also provide surveillance requirements for the CST which are not included in the existing Technical Specifications, correct errors in the valve numbers for two primary coolant system pressure isolation valves, and update the Bases to support the changes for the AFW System and CST.

The initial application dated May 7, 1986, was noticed in the **Federal Register** on June 18, 1986 (51 FR 22235). By letter dated February 20, 1987, the licensee amended their initial proposal to require a third AFW pump be operable for single and two unit operation to provide additional assurance of the availability of the AFW and to specify requirements for the operation of the AFW system when both AFW trains are inoperable. By letter dated April 23, 1987, the licensee provided clarification in Section 3.18 relating to Action Items 3 and 4. The staff has determined, due to the changes described above, that a renotice should be issued.

Basis for proposed no significant hazards consideration determination: The proposed changes to the Turkey Point Technical Specifications are:

Pages ii, iii, iv, v

These table of contents pages are revised to reflect the proposed changes.

Section 3.8, Page 3.8-1

The specification for operation of the AFW system and CST are deleted from this section and included in new Sections 3.18 and 3.19.

Table 3.16-1, Page 3.16-2

In Table 3.16-1, the valve numbers for HHSI Loop C Cold Leg and RHR Loop B Cold Leg shown as 3-875B and 3-876A would be corrected to read 3-875C and 3-876B, respectively, to reflect the correct valve numbers.

Section 3.18, Pages 3.18-1 to 3.18-2

Proposed Specification 3.18 would differ from the current Technical Specification 3.8 as follows:

(1) Table 3.18-1 defines the number of independent auxiliary feedwater pumps and their associated flowpaths (steam and water) required to be operable for single and two unit operation.

(2) The proposed specification (LCO) requires that three turbine driven AFW pumps be operable for both single and two unit operation. A single AFW pump is sized to provide adequate flow to satisfy the minimum AFW flow requirements for two unit operation. A second operable pump would satisfy the single active failure criterion. The requirement to have a third AFW pump operable would further ensure the availability of the AFW system should it be required to operate. The proposed specification (LCO) is consistent with the current design basis and safety analyses, would permit additional operational flexibility (reducing heatup/cooldown transients on the units), and is consistent with 10 CFR 50.36(c)(2) which states that LCOs are the lowest functional capability or performance levels of equipment required for safe operation of the facility.

(3) The applicability of the proposed AFW specification in the proposed Technical Specification is for Modes 1, 2, 3. This change differs from the current requirements in that the action requirements are applicable in all specified modes. Under the current Technical Specification, action is only specified to be taken when a limiting condition is not met during power operation, although the AFW System is required to be operable when the reactor coolant temperature is above 350°F. Modes for AFW operation are not specified in the current Technical Specifications.

(4) The ACTION requirements in the proposed AFW specification are consistent with the current specification except for the following. The proposed specification would allow one discharge water flowpath (i.e., a flow control valve) to be inoperable in both trains for a period not to exceed 72 hours and allow one train to be inoperable in both units for a 72 hour period. In both cases, the AFW System will be capable of providing the minimum required flow through the remaining four operable flowpaths, or through the remaining operable train in each unit, respectively. At least one AFW train would be required to be restored to operable status within two hours. If neither train can be returned to operable status, the availability of both non-safety standby feedwater pumps would be verified operable and the units then placed in Hot Shutdown within 12 hours.

If both standby feedwater pumps are not available, the unit(s) would be kept in a stable condition (thus avoiding possible challenges to the AFW system), and corrective action initiated to restore at least one AFW train (the preferred source of AFW) to an OPERABLE status as soon as possible. This action is consistent with the requirements in the WSTS.

As noted in 2) above, the third AFW pump is required to be operable for both single and two unit operation to provide additional assurance of AFW system availability. Because two AFW pumps satisfy the functional requirements for safe operation of the facility, the proposed specification allows one (of three) AFW pumps to remain out of service to 30 days provided two independent AFW trains are OPERABLE, and also allows mode changes with one AFW pump inoperable, provided the 30 day allowed outage time is not exceeded.

The proposed ACTION requirements are more restrictive in that they require action to be taken within 4 hours (consistent with the WSTS) as opposed to 48 hours in the current specification.

Page 3.16-2

In Table 3.16-1, the valve numbers for High Head Injection Loop C Cold Leg and RHR Loop B Cold Leg shown as 3-875B and 3-876A would be corrected to read 3-875C and 3-876B respectively, to reflect the correct valve numbers.

Page 4.22-1

The proposed amendment would add Technical Specification 4.22, Condensate Storage Tank. This specification provides a surveillance requirement to demonstrate the CST is operable by verifying at least once per 12 hours that the water volume in the CST is within its limits when the CST is the supply source for the AFW pumps. There is no similar requirement in the current specifications.

Pages B3.8-1, B3.18-1, B3.19-1

The proposed amendment would add separate bases (B3.18 and B3.19) for the AFW system and the CST. The Bases for the Steam and Power Conversion Systems, B3.8, would be modified accordingly to delete reference to the AFW System and CST.

The Commission has provided standards for determining whether a significant hazards consideration exists (10 CFR 50.92(c)). A proposed amendment to an operating license for a facility involves no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant increase in the probability or consequences or 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.

Operation of Turkey Point Units 3 and 4 in accordance with the proposed amendments would *not*:

(1) Involve a significant increase in the probability or consequences of an accident previously evaluated.

Technical Specification 3.18 and Table 3.18.1 define the number of independent AFW pumps and their associated flowpaths (steam and water) required to be operable for single and two unit operation. Operation of the system in accordance with this specification would ensure that adequate core and reactor coolant pump (RCP) heat removal is available to prevent water from being relieved out of the pressurizer relief valves or the safety valves. This is the basis for the current Technical Specification and consistent with the FSAR safety analyses.

The requirements in Technical Specification 3.18 for operation with both AFW trains inoperable avoid challenges to the AFW system by keeping the operating unit(s) in a stable (non-transient) condition until such time that AFW system operation can be restored, or the unit(s) can be safely shutdown using an alternate non-safety grade source of feedwater (the standby feedwater pumps).

Since two AFW pumps satisfy the functional requirements for safe operation of the facility, allowing one (of three) AFW pumps to remain out of service for 30 days provided two independent AFW trains are OPERABLE, and allowing mode changes with one AFW pump inoperable, provided the 30 day allowed outage time is not exceeded, would also not involve a significant increase in the probability or consequences of an accident previously evaluated.

The requirements for CST operation in proposed Technical Specification 3.19 are as restrictive or more restrictive than the requirements in current Technical Specification 3.8.

The addition of specification 4.22 to verify operability of the CSTs further ensures that the limiting conditions for operation for the CSTs will be met.

The changes to Table 3.16-1 to correct valve designations and format changes to the table of contents and section 3.8 are administrative. No changes to the systems were made.

Based on the above, operation in accordance with the proposed amendments would not involve an increase in the probability or consequences of an accident previously evaluated.

(2) Create the possibility of a new or different kind of accident from any accident previously evaluated.

The operation of the AFW System and CST is not significantly different from that allowed by the current Technical Specifications, and the conclusions of the safety analyses remain valid (i.e., adequate core and RCP heat removal is available). The change of valve designations and format changes to the table of contents and section 3.8 are administrative and do not result in any system changes.

Based on the above, operation in accordance with the proposed amendments would not create the possibility of a new or different kind of accident from any accident previously evaluated.

(3) Involve a significant reduction in a margin of safety.

As noted in response to (1) and (2) above, the operation of the AFW System and CST, as permitted by the proposed Technical Specifications, is not significantly different from that allowed by the current Technical Specifications. Adequate heat removal capability is available to remove core and RCP heat and to prevent water relief out the pressurizer relief or safety valves, ensuring that the integrity of the core and RCS is not compromised. By allowing continued operation with both AFW trains inoperable, challenges to the AFW system are avoided until AFW system operation can be restored or the unit(s) can be safely shut down using an alternate source.

The addition of CST surveillance requirements further ensures that the LCO for the CST will be met. In addition, the change of valve designations and various format changes are administrative and do not result in any system changes. Thus, operation in accordance with the proposed changes will not involve a significant reduction in a margin of safety.

Based on the above discussion, operation of the facility in accordance with the proposed amendments would not involve a significant increase in the probability or consequences of an accident previously evaluated, or create the possibility of a new or different kind of accident from any accident previously evaluated, or involve a significant reduction in a margin of safety. Therefore, the staff proposes to determine that the proposed amendments do not involve a significant hazards consideration.

Local Public Document Room location: Environmental and Urban Affairs Library, Florida International University, Miami, Florida 33199

Attorney for licensee: Harold F. Reis, Esquire, Newman and Holtzer, P.C., 1615 L Street, NW., Washington, DC 20036

NRC Project Director: Lester S. Rubenstein

Florida Power and Light Company, Docket Nos. 50-250 and 50-251, Turkey Point Plant Units 3 and 4, Dade County, Florida

Date of amendments request: July 18, 1986, as supplemented on February 20, 1987

Description of amendments request: The proposed amendments incorporate plant specific Technical Specifications for the Reactor Vessel Level Monitoring System (RVLMS). The RVLMS has been installed and tested on Turkey Point Units 3 and 4, and is a portion of the Inadequate Core Cooling System (ICCS). The NRC staff reviewed and approved the ICCS for Turkey Point Units 3 and 4. The details and basis for the approval are documented in the staff's Safety Evaluation dated January 28, 1985. The RVLMS portion of the ICCS was approved for implementation prior to the licensee requesting technical specifications for the RVLMS. The Technical Specifications are proposed to comply with NUREG-0737, Item II.F.2, and the staff's Safety Evaluation referenced above. The proposal is also based on the Technical Specifications approved by the NRC for the Palo Verde Nuclear Generating Station Unit 1.

The initial application dated July 18, 1986, was noticed in the **Federal Register** on September 24, 1986 (51 FR 33949). By letter dated February 20, 1987, the licensee proposed a change such that Action Statement 9 (Table 3.5-5) which originally required a single channel be restored would now require restoration of the system (both channels) to operable status prior to restart from a scheduled refueling outage. Due to the change described above, the staff has determined that a renotice should be issued.

Basis for proposed no significant hazards consideration determination: The proposed changes to the Turkey Point Technical Specifications are:

Table 3.5-5-Number of channels and minimum channels operable and Action Statements 8 and 9 for the RVLMS are added to the accident monitoring instrumentation table.

Table 4.1-1, Sheet 4-Surveillance frequencies for RVLMS are added.

Section 6.9.3, Page 6-23-The special reports referenced in the above action statements are added to the list of special reports.

Basis B3.5, Page B3.5-1-A section to describe the basis for the RVLMS is added.

The Commission has provided standards for determining whether a significant hazards consideration exists (10 CFR 50.92(c)). A proposed amendment to an operating license for a facility involves no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant increase in the probability or consequences or an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from an accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

Operation of Turkey Point Units 3 and 4 in accordance with the proposed amendments would *not*:

(1) Involve a significant increase in the probability or consequences of an accident previously evaluated. The Reactor Vessel Level Monitoring System (RVLMS) is neither credited nor required in the evaluated accidents, and is not relied upon for reactor trip or initiation of any plant safety systems. Therefore, operation of the facility in accordance with the proposed change does not affect the probability or consequences of an accident previously evaluated.

(2) Create the possibility of a new or different kind of accident from any accident previously evaluated. Although the RVLMS has been utilized in the Emergency Procedures for corroboration of selected indications, no change to normal operating procedures is involved; thus no new path is created which may lead to a new or different kind of accident. The proposed change is intended solely to enhance the ability of the operator to manage accidents and transients by providing the operator with additional corroborative information. Therefore, operation of the facility in accordance with

the proposed change does not create the possibility of a new or different accident from any accident previously evaluated.

(3) Involve a significant reduction in the margin of safety. The specific purpose of the proposed amendment is to enhance accident and transient monitoring capability and, thus, to increase the margin of safety. Therefore, operation of the facility in accordance with the proposed changes does not involve a reduction in the margin of safety.

The Commission has provided guidance concerning the application of the standards for determining whether a significant hazards consideration exists by providing certain examples (51 FR 7751) of amendments that are considered not likely to involve significant hazards considerations. Example (ii) relates to a change that constitutes an additional limitation, restriction or control not presently included in the technical specifications. The proposed changes are representative of Example (ii) in that it is an addition to the accident monitoring instrumentation required by the Nuclear Regulatory Commission's post-TMI-2 Action Plan.

Based on the above discussion, operation of the facility in accordance with the proposed amendments would not involve a significant increase in the probability or consequences of an accident previously evaluated, or create the possibility of a new or different kind of accident from any accident previously evaluated, or involve a significant reduction in a margin of safety. Therefore, the staff proposes to determine that the proposed amendments do not involve a significant hazards consideration.

Local Public Document Room location: Environmental and Urban Affairs Library, Florida International University, Miami, Florida 33199

Attorney for licensee: Harold F. Reis, Esquire, Newman and Holtzer, P.C., 1615 L Street, NW., Washington, DC 20036

NRC Project Director: Lester S. Rubenstein

General Public Utilities Nuclear Corporation, Docket No. 50-320, Three Mile Island Nuclear Station Unit 2 (TMI-2), Dauphin County, Pennsylvania

Date of Amendment Request: January 27, 1987

Description of Amendment Request: The proposed amendment would revise the TMI-2 Operating License No. DPR-73 by modifying Appendix A Technical Specifications 6.8.2.2, 3.1.1.2, 3.4.1, 3.4.9.2, 3.8.2.1, 3.9.2, 3.9.4, 3/4.4.1, and Table 6.2-1. The amendment would redefine the scope of licensee procedures and changes thereto that require NRC staff approval prior to implementation. The current Technical Specifications require that the licensee obtain NRC staff approval of detailed operating procedures and changes to procedures that: 1) directly relate to core cooling, 2) could cause the magnitude of radiological releases to exceed NRC limits, 3) could increase the likelihood of failures in systems important to nuclear safety and radioactive waste processing or storage, or 4) alter the distribution or processing of significant quantities of radioactivity being stored or released through known flow paths. The proposed amendment would modify the Technical Specifications to require NRC staff approval of only those procedures and changes thereto which alter the distribution or processing of a quantity of radioactive material, the release of which could cause the magnitude of radiological releases to exceed the limits of 10 CFR 50 Appendix I.

Basis for Proposed No Significant Hazards Consideration Determination: The Commission has provided standards for determining whether a significant hazards consideration exists in 10 CFR 50.92(c). A proposed amendment to an operating license for a facility involves no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated, (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 March 28, 1979 accident left Three Mile Island Unit 2 incapable of normal operations. The facility was severely contaminated, the extent of damage to the nuclear fuel was unknown, and there was the presence of highly contaminated liquids in the reactor building basement and in tanks in the auxiliary building. The potential impact on public health and safety arising from the unique and relatively unknown conditions of the facility resulted in an agency decision to include NRC staff review and approval in the control of certain plant activities. As a result, the requirements of the Technical Specification 6.8.2 were imposed upon the licensee. This license requirement for detailed NRC review and approval of some operating procedures has been unique to the TMI-2 project. The adequacy of licensee procedures at nuclear power facilities is normally monitored by the NRC on a periodic audit basis.

Cleanup activities have been ongoing for about eight years and the facility is currently in a stable, long-term shutdown mode. Fission product decay has progressed to the point that the decay heat load is less than 10 kilowatts and forced cooling of the reactor core is no longer needed. The reactor coolant system is no longer pressurized and the reactor vessel head has been removed from the vessel. The core is covered with water and is maintained subcritical by the presence of soluble boron in the water. Analyses have shown that there is no credible configuration of the core material that could result in a recriticality as long as the born concentration in the water is maintained within the current Technical Specification limits. Removal of the damaged core is in progress and about 30 percent of the core debris has been removed from the reactor vessel. The plant no longer needs immediately available safe shutdown systems to cope with emergencies. Based on the current status of the TMI-2 facility, requirements for operability of emergency diesel generators were deleted in an earlier licensing action. Additionally, a great deal of decontamination work has been completed in the reactor building and in the auxiliary and fuel handling buildings. Highly contaminated water resulting from the accident has been processed to remove a large quantity of the radioactive material and much of the resulting waste has been removed from the site for disposal. Major defueling related activities are reviewed by the NRC staff and the potential consequences of postulated accidents related to those activities are evaluated by the staff to assure that those activities do not pose a risk to the public health and safety. These reviews are documented in docketed safety evaluation reports.

Since the accident, the licensee has implemented a number of major management and organization changes designed to more effectively manage the unique challenge of the post-accident cleanup. These changes have resulted in an organizational structure which places an acceptable emphasis on the safe conduct of cleanup activities with adequate provisions for management review and oversight of facility activities. The staff's ongoing assessment of the licensee's procedure development and review program indicates that it is working effectively to assure implementation of the Technical Specifications and compliance with regulatory requirements.

The staff will continue to review the adequacy of licensee procedures and the licensee's compliance with regulatory requirements through the routine NRC inspection program. This includes onsite

inspection of licensee activities, and periodic technical reviews and evaluations of licensee procedures.

The proposed changes do not significantly increase the probability or consequences of an accident previously evaluated because no change to current safety systems or setpoints are proposed, and no changes are proposed to the requirements to establish, implement, and maintain written procedures for the control of facility activities.

The proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated because no new modes of operation or new equipment are being introduced by the proposed changes. Additionally, postulated accident consequences are evaluated in NRC staff safety evaluations of licensee activities irrespective of staff involvement in the review and approval of licensee procedures.

The proposed changes do not involve a significant reduction in a margin of safety because, as mentioned, previously, no active components are required to maintain the current safe shutdown of TMI-2 and the proposed changes do not reduce the level of procedural and administrative controls over plant activities.

Based on the above considerations, the Commission proposes to determine that the proposed changes do not involve a significant hazards consideration.

Local Public Document Room Location: State Library of Pennsylvania Government Publications Section, Education Building, Commonwealth and Walnut Streets, Harrisburg, Pennsylvania 17126

Attorney for Licensee: Ernest L. Blake, Jr., Shaw, Pittman, Potts and Trowbridge, 2300 N Street, NW., Washington, DC 20037

NRC Project Director: William D. Travers

Gulf States Utilities Company, Docket No. 50-458, River Bend Station, Unit 1 West Feliciana Parish, Louisiana

Date of amendment request: January 28, 1987 as supplemented on February 13, 1987 and April 16, 1987

Description of amendment request: Technical Specification 2.2, Table 2.2.1-1, Reactor Protection System Instrumentation Setpoints, Item 9.b identifies the Scram Discharge Volume Water Level-High trip setpoint and allowable value for the Float Switches LSN013A, B, C and D. This proposed amendment requests a modification to the setpoints for this function.

These setpoints, which actuate a reactor trip, are provided to detect water level in the Scram Discharge Volume at a point high enough to indicate an accumulation of water but low enough to ensure that sufficient volume will remain to accept the water displaced from the movement of control rods when they are tripped.

The licensee contends that present design of the float switches has resulted in a configuration which cannot be calibrated to the Technical Specification setpoints but can be maintained below allowable values. During the review of the design, the licensee contends that sufficient margin is included in the original design to allow a revision of the trip setpoint although no change to the allowable value will be required. Therefore, the licensee is requesting the trip setpoints identified above be revised to greater than or equal to 48.76 inches for LSN013A and B and greater than or equal to 46.88 inches for LSN013C and D. These setpoints are within the allowable values for float switches LSN013A and B and LSN013C and D.

Basis for proposed no significant hazards consideration determination: The Commission has provided standards for determining whether a significant hazards consideration exists as stated in 10 CFR 50.92. A proposed amendment to an operating license for a facility involves no significant hazards considerations if operation of the facility in accordance with a proposed amendment 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 licensee has provided an analysis of no significant hazards considerations in its January 28, 1987 request as supplemented on February 13, 1987 and April 16, 1987 for a license amendment. The staff has reviewed the licensee's submittal and concludes that since the proposed revision does not affect the allowable value for the scram discharge volume water level setpoint, the proposed amendment to the Technical Specifications would not involve a significant increase in the probability or consequences of an accident previously evaluated because there is no change in the physical design or performance of plant systems or components from those evaluated in the Final Safety Analysis Report (FSAR).

The initiation of the Reactor Protection System Trip is based on main taining sufficient capacity in the scram discharge volume to accommodate the water displaced by the CRD pistons during a scram. The design function of the float switches has not changed and the minimum volume requirements have been maintained.

The proposed amendment changes the trip setpoint for float switches LSN013A, B, C and D, but the allowable values for these float switches remain unchanged. The Technical Specifications allowable value are those values which are determined using acceptable methodology to ensure adequate conservatism exists to prevent exceeding safety limits during normal operation and design basis operational occurrences and to assist in mitigating the consequences of accidents. Technical Specifications provide for operation with instrument setpoints less conservative than their trip setpoints but within their specified allowable values on the basis that the difference between each trip setpoint and allowable value is equal to or less than its drift allowance assumed for each trip in the safety analyses. Thus, there is no increase in the probability or consequences of any accident previously evaluated.

The staff concurs with the licensees' contention that the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated because this change does not involve a change in the operating mode of existing equipment and the original design requirements are maintained. Thus, no new accident scenario is introduced.

The staff also concurs with the licensees' assessment that the proposed change does not involve a significant reduction in the margin of safety. The margin of safety in River Bend design is the assurance the process safety limit will not be exceeded. The licensee states and the staff agrees that this assurance is provided by the specific accounting of all inaccuracies between the process safety limit and the allowable value. The "additional margin" identified between the Process Safety Limit and the Allowable Value and the "additional allowance/installation tolerance" between the Allowable Value and the setpoint are not considered in the safety analysis. The additional margin between the process limit and the allowable value for float switches LSN013A and B is 1.12 and 8 inches for LSN013C and D. The inaccuracy maximum value is 1.0 inches. Since the difference between the allowable value and the setpoint, in the proposed change, is greater than 1 inch, the new setpoint will not decrease the margin of safety. This proposed change

will maintain the nominal trip setpoint at or below the allowable value thus assuring the margin of safety. Since the allowable value which assures the safety basis of the Technical Specification is maintained, therefore, the margin of safety is not significantly reduced.

Accordingly, the staff has made a proposed determination that the application involves no significant hazards consideration.

Local Public Document Room location: Government Documents Department, Louisiana State University, Baton Rouge, Louisiana 70803

Attorney for licensee: Troy B. Conner, Jr., Esq., Conner and Wetterhahn, 1747 Pennsylvania Avenue, NW., Washington, DC 20006

NRC Project Director: Jose A. Calvo

Indiana and Michigan Electric Company, Docket Nos. 50-315 and 50-316, Donald C. Cook Nuclear Plant, Unit Nos. 1 and 2, Berrien County, Michigan

Date of amendment request: March 26, 1987 (partial).

Description of amendment request: The proposed amendment would revise the Technical Specifications (TS) to revise the refueling operation boron concentrations, increase the boron concentrations in the refueling water storage tank (RWST) and accumulators, increase the usable water volumes required in the RWST, increase the RWST temperature at all times to prevent precipitation, make the moderator temperature coefficient a ramp function with power rather than a step function, and add footnotes such that addition of water from the RWST does not constitute a boron deletion. The remaining items from the licensee's March 26, 1987 submittal will be the subject of a separate action.

Basis for proposed no significant hazards consideration determination: The Commission's standards for determining whether a significant hazard consideration exists is as stated in 10 CFR 50.92. A proposed amendment to an operating license for a facility involves no significant hazards consideration if operation of the facility in accordance with a proposed amendment would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated, (2) create the possibility of a new or different kind of accident from any accident previously evaluated, or (3) involve s significant reduction in a margin of safety.

The changes in boron concentrations, usable water volumes, RWST temperature and the footnotes which clarify that water additions from the RWST do not constitute a boron dilution event are all the result of a boron dilution analysis for proposed fuel management changes in Units 1 and 2 and bound the events should the spray additive task be removed from the TS by separate licensing action. The boron dilution analyses have been performed by acceptable methods considering loss of coolant and other accidents and the resultant increases provide the volumes and concentrations of boron in the unlikely event of accidents while the Units are operating or shut down. With these changes, the proposed fuel management schemes will be acceptable. Therefore, the changes to the boron volumes and concentrations do not significantly increase the probabilities or consequences of any accident previously analyzed. The boron addition is accompanied by temperature increases in the RWST to prevent precipitation of the boron. There is no other change to operation or the facilities; therefore, the proposed changes do not create the possibility of a new or different kind of accident. There may be some operational difficulty keeping the RWST at 80°F but by doing the analysis and increasing the volumes and concentrations, the margin of safety is maintained. Thus, there is no significant reduction in a margin of safety.

The licensee proposes to add a footnote to TS to clarify that water additions to the reactor coolant systems from the RWST's do not constitute a boron dilution event. This footnote has been added to D. C. Cook TS in the past and the additional footnotes are consistent with the previous TS amendments. The RWST boron concentration is to account for these water additions; therefore, the change does not constitute a significant increase in the probabilities or consequences of any previously analyzed accident nor does it significantly reduce any margin of safety. The proposed change does not create the possibility of any new accident not already analyzed.

The proposed change to make the Unit 1 TS moderator temperature coefficient a ramp function with power is the result of an analysis of all applicable accident analyses to determine the analysis limitations or degree of conservatism in coefficients used in comparison to the coefficient proposed in the ramp function TS. The existing analyses were not changed to support the TS change; the ramp function was determined to be within the assumptions and consistent with the conservatism in the original analyses. Since changing the TS to a ramp function is consistent with previous analyses, there is no significant increase in the probability or consequences of any previously analyzed accident nor is there any significant reduction in a margin of safety. Since the only change is a change consistent with existing analyses, there is no new or different kind of accident from operation with the ramp function from any accident previously analyzed.

Therefore, based on the above, the staff proposes to determine that the proposed technical specification changes do not involve a significant hazards consideration.

Local Public Document Room location: Maude Preston Palenske Memorial Library, 500 Market Street, St. Joseph, Michigan 49085.

Attorney for licensee: Gerald Charnoff, Esq., Shaw, Pittman, Potts and Trowbridge, 1800 M Street, NW., Washington, DC 20036.

NRC Project Director: D. L. Wigginton, Acting.

Pacific Gas and Electric Company, Docket Nos. 50-275 and 50-323, Diablo Canyon Power Plant, Unit Nos. 1 and 2, San Luis Obispo County, California

Date of amendment request: March 25, 1987 (Reference LAR 87-05)

Description of amendment request: The proposed amendment would revise the Diablo Canyon combined Technical Specifications for Units 1 and 2 to accommodate Cycle 2 operation of Unit 2. The proposed changes would allow optimization of the core loading pattern by minimizing the restriction on F^N delta H at lower power levels, modification of the overtemperature delta T reactor trip setpoint, an increase in the refueling water storage tank (RWST) and accumulator boron concentration, and modification of Technical Specification Figure 3.2-2, the normalized heat flux hot channel factor as a function of core height, by relaxing that part of the present curve termed the "third line segment." The specific changes would include the following:

(1) Technical Specification 3/4.2.3, RCS Flow Rate and Nuclear Enthalpy Rise Hot Channel Factor, Safety Limit 2.1.1, Reactor Core, including related Bases 2.1.1, and Safety Limit 2.2.1, Reactor Trip System Instrumentation Setpoints. The F^N delta H partial power multiplier in Technical Specification 3.2.3 and associated Figure 3.2-3b would be changed from 0.2 to 0.3 for Unit 2. (This change was previously approved by the NRC Staff for Unit 1 in License Amendment 10 to Operating License DPR-80.) No change would be made in the F^N delta H limit at full power. Bases 2.1.1 would be revised to reflect the Unit

2 F^N delta H change. The increased F^N delta H partial power multiplier also affects the calculation of departure from nucleate boiling ratio (DNBR). Reevaluation of the safety limits for the reactor core would also require a revision to the Safety Limit Curve (Figure 2.1-1b). The reevaluation also showed that the overtemperature delta T setpoint equation constants in Table 2.2-1 should be revised.

The proposed revision would allow optimization of core loading patterns by minimizing the restriction on F^N delta H at low power levels. Also, the revision would minimize the need to make control rod insertion limit changes in future reload cycles to satisfy peaking factor criteria at low power levels. A safety evaluation for the revised F^N delta H partial power multiplier was performed for the licensee by the NSSS vendor. The results show that the LOCA analysis and other accident analyses in the FSAR Update are not affected by the proposed changes.

(2) Technical Specification 3.1.2.5, Borated Water Sources-Shutdown, 3.1.2.6, Borated Water Sources-Operating, 3.5.1, Accumulators, and 3.5.5, Refueling Water Storage Tank, and Bases 3/4.1.2, Boration Systems, 3/4.5.5, Refueling Water Storage Tank, and 3/4.6.2.2, Spray Additive System. The specifications and associated bases would be changed to increase the RWST boron concentration from between 2000 and 2200 ppm to between 2300 and 2500 ppm and to increase the accumulator boron concentration from between 1900 and 2200 ppm to between 2200 and 2500 ppm.

The solution in the RWST and accumulators is required to have enough boron concentration to maintain the core subcritical following a large break loss-of-coolant accident (LOCA). For Cycle 1 on both units and Cycle 2 on Unit 1, the present minimum boron concentrations of 2000 ppm for the RWST and 1900 ppm for the accumulators are capable of maintaining the core subcritical. However, the reload safety evaluation for Unit 2, Cycle 2 determined that the proposed increase in boron concentration is required for Cycle 2 operation. The proposed increased boron concentrations will also support future core designs with longer fuel cycles and higher burnup which may require higher boron concentration in the emergency core cooling system water.

A safety evaluation for the boron concentration change was performed for the licensee by the NSSS vendor which determined that the proposed boron concentration increases will have no adverse impact on the non-LOCA analysis, the LOCA analysis, or LOCA related design considerations. Also, the minimum solution temperature of 35°F for the RWST was reviewed and determined to be adequate for the increased boron concentration.

(3) Technical Specification 3/4.2.2, Heat Flux Hot Channel Factor - $F_Q(Z)$. Figure 3.2-2, K(Z)-Normalized $F_Q(Z)$ as a function of Core Height, would be modified by relaxing that part of the present curve termed the "third line segment" (from 10.8 to 12.0 feet above the bottom of the core).

Near the top of the core, 10.8 to 12.0 ft., K(Z) presently decreases rapidly from 0.94 to 0.43. This could make it necessary to reduce thermal power near the end of cycles for upcoming core loading patterns in Units 1 and 2 in order to maintain the heat flux hot channel factor within the limits required by Technical Specification 3.2.2. A recent small break LOCA reanalysis by Westinghouse has shown that the present rapid decrease in K(Z) near the top of the core can be relaxed. This relaxation will reduce the likelihood of incurring a power penalty as required by Action a. of Technical Specification 3.2.2.

The small break loss-of-coolant accident (LOCA) recently reanalyzed by the NSSS vendor for the licensee used the NRC approved Westinghouse Small Break LOCA Evaluation Model with NOTRUMP (WCAP-10054-P-A). The reanalysis was performed at a power level of 3411 MWt for Unit 2 and 3338 MWt for Unit 1, ten percent steam generator tube plugging and 850 cubic feet of water per accumulator. Also, 17 x 17 standard fuel was modeled, including relaxation of the third line segment for the K(Z) curve.

The three, four and six-inch diameter break sizes were analyzed for Unit 2, as well as the limiting of these three for Unit 1. The worst case was the four-inch diameter break size. This resulted in a peak cladding temperature of 1288°F for Unit 2 and 1244°F for Unit 1. These results are well below the peak cladding temperature limit of 2200°F specified in 10 CFR 50.46.

Since the results of the reanalysis are well within the peak cladding temperature limit of 10 CFR 50.46 the K(Z) curve can be modified to eliminate the "third line segment."

Basis for Proposed No Significant Hazards Consideration Determination: The Commission has provided standards for determining whether a significant hazards consideration exists (10 CFR 50.92(c)). A proposed amendment to an operating license for a facility involves no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated; (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 licensee has determined that the proposed revision will not:

(1) Involve a significant increase in the probability or consequences of an accident previously evaluated because (a) evaluation of the LOCA analyses contained in the FSAR Update shows that the analyses were performed at rated power conditions which bound all partial power conditions. Since F^N delta H has no increase at rated power, the increase in partial power F^N delta H has no impact on the LOCA analyses; (b) a safety evaluation of the proposed boron concentration increase in the RWST and accumulators shows there will be no adverse impact on the non-LOCA analysis, the LOCA analysis, or LOCA related design considerations and that the conclusions in Chapter 15 of the FSAR Update remain valid; and (c) a reanalysis of the small break LOCA using the Westinghouse Evaluation Model with NOTRUMP for the relaxed third line segment of the curve for normalized heat flux hot channel factor as a function of core height shows that the worst case peak cladding temperatures are less than 1300°F, well within the 2200°F limit in 10 CFR 50.46.

(2) Create the possibility of a new or different kind of accident from any accident previously evaluated because the proposed changes for F^N delta H and relaxation of the third line segment for the K(Z) curve do not include or necessitate physical alteration of the plant or changes to operating procedures, nor have previous LOCA analyses been invalidated; and the proposed boron concentration increases in the RWST and accumulators will have no adverse impact on the accident analyses in Chapter 15 of the FSAR Update or LOCA related design considerations.

(3) Involve a significant reduction in the margin of safety because the proposed increase in F^N delta H and the proposed boron concentration increases in the RWST and accumulators do not affect the conclusions of the accident analyses and the proposed relaxation of the third line segment for the K(Z) curve results in peak cladding temperatures well within the 10 CFR 50.46 limits for small break LOCAs.

Accordingly, the licensee has determined that the proposed change to

the Technical Specifications involves no significant hazards consideration.

The NRC staff has reviewed the proposed amendment and the licensee's determination and finds it acceptable. Therefore, the staff proposes to determine that no significant hazards consideration is involved in the proposed amendment.

Local Public Document Room location: California Polytechnical State University Library, Government Documents and Maps Department, San Luis Obispo, California 93407.

Attorney for licensee: Richard F. Locke, Esq., Pacific Gas and Electric Company, P. O. Box 7442, San Francisco, California 94120 and Bruce Norton, Esq., c/o Pacific Gas and Electric Company, P. O. Box 7442, San Francisco, California 94120.

NRC Project Directorate: George W. Knighton, Director

Portland General Electric Company, et al., Docket No. 50-344, Trojan Nuclear Plant, Columbia County, Oregon

Date of amendment request: September 30, 1986

Description of amendment request: The proposed amendment would revise Trojan Technical Specification (TS) Section 3.3.3.6, Chlorine Detection Systems, by requiring the TS to be applicable in ALL MODES rather than the current TS requirement of MODES 1 through 4, and to delete the reference to the detectors being located in the control room duct; and revise TS Section 3/4.7.6.1, Control Room Emergency Ventilation System (CB-1), by modifying the TS Section to: (a) be applicable in ALL MODES, (b) incorporate the ACTION statement from the Westinghouse Standard Technical Specifications (W-STS NUREG-0452, Rev. 4), (c) require performance of a monthly flow test for 15 minutes, (d) reduce the frequency of the monthly cooling capability test to an annual basis, (e) increase the HEPA and charcoal filter test efficiency to greater than or equal to 99.95 percent from greater than or equal to 99 percent, (f) specify a system flow rate of 3000 cfm, (g) incorporate the Regulatory Guide 1.52 test guidelines for laboratory charcoal analysis, and (h) require performance of testing every 18 months to demonstrate that a positive pressure within the control room envelope can be maintained relative to adjacent spaces.

Basis for proposed no significant hazards consideration determination: 10 CFR 50.92 states that a proposed amendment will not involve a significant hazards consideration if the proposed amendment does not: (i) Involve a significant increase in the probability or consequences of an accident previously evaluated; or (ii) Create the possibility of a new or different kind of accident from any accident previously evaluated; or (iii) Involve a significant reduction in a margin of safety. The Commission has also provided guidance concerning the application of these standards by providing certain examples (March 6, 1986, 51 FR 7751). Examples of an amendment that is considered not likely to involve a significant hazards considerations is Example (i) A purely administrative change to technical specifications: for example, a change to achieve consistency throughout the technical specifications, correction of an error, or a change in nomenclature; Example (ii) A change which constitutes an additional limitation, restriction or control not presently included in the technical specifications, e.g., a more stringent surveillance requirement; and Example (vi) A change which either may result in some increase to the probability or consequences of a previously analyzed accident or may reduce in some way a safety margin, but where the results of the change are clearly within all acceptable criteria with respect to the system or component specified in the Standard Review Plan.

The proposed deletion of the referenced location of the Chlorine detectors corrects an error in the TS by removing the incorrect implication that the detectors are located within the duct; they are actually located just beyond the air intake. This proposed change is within the scope of Example (i) cited above. Thus, the staff proposes to determine that this requested change does not involve a significant hazards consideration.

The proposed change to require TS Sections 3.3.3.6 and 3.7.6.1 to be applicable in ALL MODES rather than MODES 1 through 4, and the proposed incorporation of the W-STS Action Statement for TS Section 3/4.7.6.1 for MODES 5 and 6 provides for a more stringent control regarding system operability and required actions. The proposed change to TS Section 3/4.7.6.1 to verify positive pressure relative to adjacent spaces rather than the current TS requirement of maintaining positive pressure to outside air represents a more stringent surveillance requirement since maintaining a positive pressure in the control room in relation to adjacent spaces provides assurance that radioactivity which may enter adjacent spaces following an accident is prevented from entering the control room. The current 18 month test frequency will not be changed. The proposed change to TS Section 3/4.7.6.1 to increase the HEPA and charcoal filter test efficiency, and to revise the laboratory charcoal analysis represents a more restrictive limitation not presently included in the TS. The increase in filter test efficiency imposes a greater particulate removal requirement associated with a 3000 cfm flow rate than that required by the current TS. The proposed change to TS Section 3/4.7.6.1 of specifying a system flow rate of 3000 cfm is also provided since this proposed flowrate is that which is assumed by the proposed increase in HEPA and charcoal filter efficiencies. The revised charcoal analysis imposes more restrictive requirements on the removal efficiency of radioiodine by the charcoal adsorbers and also imposes more restrictive test conditions. These proposed changes are within the scope of Example (ii) cited above. As such, the staff proposes to determine that these requested changes do not involve a significant hazards consideration.

The licensee has evaluated the proposed changes to TS Section 3/4.7.6.1 regarding the monthly flow test of 15 minutes and an annual system performance test, against the standards of 10 CFR 50.92, and has determined the following: The design of the Trojan Control Room Emergency Ventilation systems (CB-1) will no longer include the use of preheaters. Since the preheaters are to be deleted, the provision in Regulatory Guide 1.52 to operate each Engineered Safety Features (ESF) HVAC system for 10 hours per month is no longer applicable. The proposed 15 minute monthly flow test is of the same duration as similar tests performed on the spent fuel pool exhaust system (TS 4.9.12.2), the Containment Cooling System (TS 4.6.2.3.a.2), and the Hydrogen Vent System (TS 4.6.4.3.a).

The current 10 hour monthly testing contributes to control room equipment aging. CB-1 was not designed to keep the control room at 75°F like the normal control room ventilation system (CB-2). The elevated control room temperature experienced during testing of CB-1, while well within design limits, is considered more detrimental to control room habitability than the marginal increase in confidence in CB-1's cooling ability provided by frequent monthly testing. The proposed monthly flow test would verify the systems operability, while the proposed annual system performance test would verify the systems cooling capability. CB-1 has never failed to maintain temperature within design conditions of 110°F during all testing performed to date. Test results show that the control room

temperature has never exceeded approximately 87°F during summer conditions. This indicates that gradual degradation of the CB-1 cooling capability between tests could be accommodated with available margin.

Also, modes of possible failure of the CB-1 service water coolers, such as fouling do not occur rapidly enough to justify testing on a monthly basis. Annual testing is considered adequate to detect any decrease in the capability of the service water coolers. In addition, since testing is proposed on a STAGGERED TEST BASIS, at least one train of CB-1 will be tested every 6 months. Therefore, any significant degradation in the cooling capability of one train would result in investigations being performed on the other train. Since it is unlikely that significant degradation in the cooling capability of one train, e.g., fouling, would occur without also occurring in the other train, the effective surveillance frequency is equivalent to every 6 months.

This change does not create the possibility of a new or different kind of accident because the surveillance performed on CB-1 to demonstrate OPERABILITY is not relevant to accident creation since CB-1 functions to mitigate the consequences of an accident *after* it has occurred.

This change does not involve a significant reduction in a margin of safety because no change to the Limiting Condition for Operation nor control room design basis temperature is proposed.

The staff has reviewed the licensee's no significant hazards analysis and concurs with their conclusions. As such, the staff proposed to determine that the requested change does not involve a significant hazards consideration.

Local Public Document Room location: Multnomah County Library, 801 S. W. 10th Avenue, Portland, Oregon 97205

Attorney for licensee: J. W. Durham, Senior Vice President, Portland General Electric Company, 121 S. W. Salmon Street, Portland, Oregon 97204

NRC Project Director: Steven A. Varga

Portland General Electric Company, et al., Docket No. 50-344, Trojan Nuclear Plant, Columbia County, Oregon

Date of amendment request: February 20, 1987, as revised April 20, 1987

Description of amendment request: This amendment proposes to revise the Trojan Technical Specifications (TS) regarding steam generator (SG) tube plugging criteria in the tube sheet region. More specifically:

TS Section 4.4.5.2 would be revised to add the SG tubes subject to the F* criteria which have not been plugged, to the 3 percent sample to be inspected;

TS Section 4.4.5.4.a would be revised to change the plugging limit to exclude imperfections in the area of the tube sheet region below the F* distance, provided the tube has no indication of cracking within the F* distance, and would add definitions of tube roll expansion, and F* distance; and

TS Section 4.4.5.5 would be revised to add a requirement to report the results of inspections of tubes which have defects below the F* distance but which were not plugged, to the NRC prior to restart of the unit following the inspection.

Conforming changes would also be made to the Bases for Trojan Technical Specification 3/4.4.5.

Basis for proposed no significant hazards consideration determination: 10 CFR 50.92 states that a proposed amendment will not involve a significant hazards consideration if the proposed amendment does not: (i) Involve a significant increase in the probability or consequences of an accident previously evaluated; or (ii) Create the possibility of a new or different kind of accident from any accident previously evaluated; or (iii) Involve a significant reduction in a margin of safety.

The licensee has evaluated the proposed amendment against the standards of 10 CFR 50.92, and has determined the following:

The steam generators at Trojan were originally fabricated with a partial depth mechanical roll at the bottom of the tube. Subsequently the full depth of the tube was expanded using a controlled explosive process. Existing Technical Specification tube plugging criteria require all defective tubes to be plugged. The existing tube plugging criteria apply throughout the tube length, but do not account for the reinforcing and retaining effect of the tube sheet on the external surface of the tube. However, the supporting technical and safety evaluations of the subject criteria [Westinghouse WCAP-11307 "Tubesheet Region Plugging Criterion for the Portland General Electric Company, Trojan Nuclear Station" (Proprietary), and WCAP-11315 (Non-Proprietary)] demonstrate that tube plugging or repair is not required in cases where there are indications in the mechanical roll portion of the tube and are at least a prescribed distance (F*) below the transition from the roll expansion to the explosive expansion. The licensee's F* distance includes an uncertainty distance to account for eddy current measurement uncertainty. Analyses and testing have demonstrated that the F* length itself is sufficient to resist pullout of the tube from the tube sheet for all postulated conditions as long as it contains no indications of cracking, without considering the additional pullout resistance provided by the explosively expanded section of tube. The resistance to both tube rupture and tube collapse is strengthened by the presence of the tube sheet in that region. The result of the hardroll of the tube into the tube sheet is an interference fit between the tube and the tube sheet. Tube rupture cannot occur because the contact between the tube and tube sheet does not permit sufficient movement of tube material. In a similar manner, the tube sheet does not permit sufficient movement of tube material to permit buckling collapse of the tube during postulated LOCA loadings.

Relative to expected leakage, the length of the roll expansion in the F* distance is sufficient to preclude significant leakage from tube degradation located below the F* distance. The existing Technical Specification leakage rate requirements and accident analysis assumptions remain unchanged in the unlikely event significant leakage from this region does occur. Any leakage out of the tube from within the tube sheet at any elevation in the tube sheet is fully bounded by the existing steam generator tube rupture analysis included in the Updated Final Safety Analysis Report. The proposed F* criteria do not adversely impact any other previously evaluated design basis accident. As such, the proposed change would not significantly increase the probability or consequences of an accident previously evaluated.

Implementation of the proposed F* criteria does not introduce any significant changes to the plant design basis. Any hypothetical accident as a result of any tube degradation in the expanded portion of the tube would be bounded by the existing steam tube generator rupture accident analysis. As such, the proposed change would not create the possibility of a new or different kind of accident from any accident previously evaluated.

The use of the F* criteria has been demonstrated to maintain the integrity of the tube bundle commensurate with the requirements of Regulatory Guide 1.121 for indications in the free span of tubes and the primary to secondary pressure boundary under normal and postulated accident conditions. The safety factors used in the determination of the F* distance are consistent with the safety factors in the ASME Boiler and Pressure Vessel Code used in steam

generator design. The F* distance has been verified by testing to be greater than the length of roll expansion required to preclude significant leakage during normal and postulated accident conditions. Additionally, for axial or nearly axial indications in the tube sheet region, the tube end remains structurally intact, further decreasing any potential for tube pullout.

For tubes with axial or nearly axial cracks, the strength of the tube relative to an axial load would not be reduced below the strength required to resist potential axial loads. Based on testing, use of the F* criteria would not be expected to result in significant leakage from through wall cracks located below the F* distance.

Implementation of the F* criteria will decrease the number of tubes which must be taken out of service with tube plugs, or repaired with sleeves. Both plugs and sleeves reduce the RCS flow margin, thus implementation of the F* criteria will maintain the margin of flow that would otherwise be reduced in the event of increased plugging or sleeving. Based on the above, the proposed change would not result in a significant reduction in a margin of safety.

The NRC staff has previously approved license amendments for the Virgil C. Summer Nuclear Station and McGuire Nuclear Stations, Units 1 and 2 regarding the use of the F* criteria and methodology. However, these amendments were applicable for full-depth hard-rolled tubes where the F* distance was located at the top of the tube sheet. The Trojan amendment request applies the F* criteria at the bottom of the tube sheet, where the hard-rolled depth of the tube is approximately three inches. Thus, conservatively, there is much more (the explosively expanded portion) of each tube in the tube sheet to resist tube pullout, and to inhibit primary to secondary leakage, although credit was not assumed for these considerations by the analyses.

The staff has reviewed the licensee's no significant hazards analysis and concurs with their conclusions. As such, the staff proposes to determine that the requested change does not involve a significant hazards consideration.

Local Public Document Room location: Multnomah County Library, 801 S. W. 10th Avenue, Portland, Oregon 97205

Attorney for licensee: J. W. Durham, Senior Vice President, Portland General Electric Company, 121 S. W. Salmon Street, Portland, Oregon 97204

NRC Project Director: George W. Knighton

Power Authority of The State of New York, Docket No. 50-286, Indian Point Unit No. 3, Westchester County, New York

Date of amendment request: February 9, 1987

Description of amendment request: This application for revision to the Indian Point 3 Technical Specifications seeks to permit the resumption of power operations without prior NRC approval subsequent to a steam generator inspection requiring the inspection of all tubes per the provisions of Table 4.9-1 of the Technical Specifications. In addition, the definition of Tube Inspection is being modified and historical references to the tube plugging limit of 63% degradation, which was valid for Cycle 4 only, are being deleted. The proposed change will revise Section 4.9 to reflect new information concerning wastage-type defects. Table 4.9-1 is also being revised to reflect that a defective tube may be repaired by plugging or sleeving.

The proposed Technical Specifications will delete the provision for NRC approval prior to resuming power operation subsequent to a steam generator inspection whose results have been classified as Category C-3 requiring the inspection of all tubes. Technical Specification 4.9.C.3 will be revised to require notification to the NRC prior to resumption of power operation from a steam generator inspection requiring the inspection of all tubes. The proposed Technical Specifications are consistent with the Westinghouse Standard Technical Specifications which require the prompt notification of Category C-3 results but do not include a requirement for NRC approval prior to resumption of power operation.

The Indian Point 3 Technical Specifications currently require sample inspections from the hot leg tubesheet to the top support on the cold leg side. In light of the degradation on the cold leg side, full length tube inspections will be performed for the initial 3% sample defined in Table 4.9-1. Additional sample inspections may be limited to a partial length inspection concentrating on those locations where degradation has been found. This definition of tube inspection is that recommended by Generic Letter 85-02, "Staff Recommended Actions Stemming from NRC Integrated Program for the Resolution of Unresolved Safety Issues Regarding Steam Generator Tube Integrity."

For Cycle 4 only, the plugging limit was increased to 63% degradation from 40% degradation. Upon completion of Cycle 4 operations the tube plugging limit reverted to 40%. The historical references to the 63% tube plugging limit in Section 4.9 are being deleted for the sake of clarity.

Basis for proposed no significant hazards consideration determination: The Commission has provided standards for determining whether a significant hazards consideration exists as stated in 10 CFR 50.92. A proposed amendment to an operating license for a facility involves no significant hazards consideration if operation of the facility in accordance with a proposed amendment 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 following analysis has been made of these changes:

1. Does the proposed license amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

This change does not impact the extent of the steam generator tube inspections nor does it impact the corrective measures to be taken upon the identification of a defective tube. The licensee will plug or sleeve the identified defective tubes prior to commencement of power operation, regardless of the requirements for prior NRC approval.

The requirement for NRC approval prior to operation after a steam generator tube inspection with C-3 results has been in the Technical Specifications since they were originally issued. The approval requirement was not added due to increased tube degradation. However, NRC approval was required after a mid-cycle (Cycle 4) inspection when a requirement for additional inspection was imposed because of tube degradation. These additional inspection requirements have expired and have been removed from the Technical Specifications. Thus, NRC approval is no longer needed for any additional inspections. For all inspections, the NRC has determined that the level of safety will not be degraded by deleting the requirement for NRC approval.

The change related to tube inspection will result in an inspection where the actual tube degradation has been shown to occur. The change to the 40% plugging limit was previously approved and the 63% limits are being deleted for clarity. Based on the above, the changes do not involve a significant increase in the probability or consequences of an accident previously analyzed.

2. Does the proposed license amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

This proposed amendment will not vary or affect any plant operating condition or parameter. Hence, the possibility or a new or

different kind of accident from any accident previously evaluated is not created.

3. Does the proposed amendment involve a significant reduction in a margin of safety?

The proposed change seeks, in part, to delete the requirement for NRC approval prior to resumption of power operation from an outage which included Category C-3 steam generator inspection results requiring the inspection of all tubes. The licensee will still be required to plug or sleeve identified defective tubes prior to resumption of power operation. As such, the margin of safety will not be reduced.

The proposed change also seeks to revise the definition of Tube Inspection. In light of the degradation on the cold leg side, the scope of the tube inspection will be expanded to a full length inspection for the initial 3% sample. Additional sample inspections may be limited to a partial length inspection concentrating on those locations where degradation has been identified. This revised definition of tube inspection will ensure the continued inspection of the cold leg side, where degradation has been previously identified. As such, the margin of safety will not be reduced.

Other changes delete historical information or clarify the Technical Specifications. Thus, the margin of safety will not be reduced.

Based on the above, the staff proposes to determine that the proposed changes do not involve a significant hazards consideration.

Local Public Document Room location: White Plains Public Library, 100 Martine Avenue, White Plains, New York 10601

Attorney for licensee: Mr. Charles M. Pratt, 10 Columbus Circle, New York, New York 10019

NRC Project Director: Robert A. Capra, Acting Director

Power Authority of The State of New York, Docket No. 50-286, Indian Point Unit No. 3, Westchester County, New York

Date of amendment request: March 10, 1987

Description of amendment request: The licensee provided the following description:

This revision to the Indian Point 3 Technical Specifications seeks to revise Figure 3.10-4 which provides the control bank insertion limit curves.

The proposed Technical Specifications provide a revised C and D control bank insertion limit. The extent of allowable control bank insertion during normal power operation is being reduced. This proposed change results in a more restrictive mode of operation than that dictated by the current Technical Specifications.

The FSAR provides transient analyses supporting plant operation with a D control bank insertion range from fully withdrawn to 30% inserted at 100% rated power. The proposed change will limit the D control bank insertion range from fully withdrawn to 22% at 100% rated power. There will be a similar reduction in the allowable band of plant operations for all other power levels. This band of plant operation is within that band of plant operation supported by the FSAR transient analyses. The C control bank curve is revised to maintain the distance from the D control bank insertion limit curve reflecting the 100 step overlap between these banks.

The reduction in the band of allowable plant operation involves the removal of operating area that is not utilized. This area has not been utilized for the excore/incore recalibration which involves the deliberate insertion of the rods to induce an axial xenon oscillation. As such, the proposed change will not adversely affect plant operations.

Basis for proposed no significant hazards consideration determination: The Commission has provided standards for determining whether a significant hazards consideration exists as stated in 10 CFR 50.92. A proposed amendment to an operating license for a facility involves no significant hazards considerations if operation of the facility in accordance with a proposed amendment 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 following analysis was provided by the licensee:

1. Does the proposed license amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

The FSAR provides the transient analyses supporting plant operation with a D control bank insertion range from fully withdrawn to 30% inserted at 100% rated power. The proposed change will limit the D control bank insertion range from fully withdrawn to 22% at 100% power. There will be a similar reduction in the band of allowable plant operations for all other power levels. This band of plant operation is within that band of plant operation supported by the FSAR transient analyses. As plant operations under the proposed Technical Specifications will be bounded by the plant operations supported by the FSAR transient anlayses the proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed license amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

Plant operations under the revised control bank insertion limits are bounded by the plant operations supported by the FSAR transient analyses. The proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed amendment involve a significant reduction in a margin of safety?

As plant operations under the proposed Technical Specifications will be bounded by the plant operations supported by the FSAR transient analyses, the proposed amendment does not involve a significant reduction in a margin of safety.

Based on the above, the staff proposes to determine that the proposed changes do not involve a significant hazards consideration.

Local Public Document Room location: White Plains Public Library, 100 Martine Avenue, White Plains, New York 10601

Attorney for licensee: Mr. Charles M. Pratt, 10 Columbus Circle, New York, New York 10019

NRC Project Director: Robert A. Capra

Public Service Electric and Gas Company, Docket No. 50-354, Hope Creek Generating Station, Salem County, New Jersey

Date of amendment request: April 3, 1987

Description of amendment request: Hope Creek Technical Specifications require that local leak rate tests be performed on certain primary containment isolation valves at least once per 18 months and on certain others at intervals no greater than 24 months. The Technical Specifications allow a 25 percent extension to the 18 month test interval. The proposed amendment would provide a one-time extension to these required test intervals to allow these tests to be performed during the first refueling outage. This outage is currently scheduled to begin in February 1988.

The extension would apply to a total of 27 valves. Of these, one is currently required to be tested by June 11, 1987; three more by June 23, 1987; four more by July 16, 1987; and so on until the last valve is required to be tested by September 18, 1987. Thus, the proposed change would extend the currently required test intervals for these valves on a one-time basis, by about five to eight months.

The extension is requested so that the plant will not be required to shutdown solely to perform leak tests on these valves.

In addition to the Technical Specification requirements discussed above, Appendix J to 10 CFR 50 also requires that primary containment isolation valves be local leak rate tested within a two year interval. In another letter, also dated April 3, 1987, the

licensee has requested an exemption to this Appendix J requirement for the same 27 valves discussed above and the staff is currently evaluating this request.

Basis for proposed no significant hazards consideration determination: The Commission has provided standards for determining whether no significant hazards consideration exists as stated in 10 CFR 50.92(c). A proposed amendment to an operating license for a facility involves no significant hazards consideration if operation of the facility in accordance with the proposed amendment 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 an accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

The licensee stated:

"Postponing the aforementioned local leak rate tests until the end of the first refueling outage would allow for continued operation of the plant and would have little or no effect on containment integrity as discussed below.

1. The containment isolation valves listed on Attachment 1 were all tested successfully in late 1985. The total of the measured Type C leakage rates for these valves is not a significant portion (4.9%) of the allowable leakage limit (0.6 L_a). Deterioration in the overall integrity of the containment penetration is normally a gradual process.

NUREG/CR 4330, Review of Light Water Reactor Regulatory requirements, has shown that containment leakage is a relatively minor contributor to overall plant risk. In addition inherent BWR design features will maintain the offsite doses below 10CFR100 limits even with leakage above current limits.

2. The intent of the Technical Specifications leak rate testing intervals for pressure isolation valves and containment isolation valves is to require testing of the isolation valves once every fuel cycle. A normal reactor fuel load is designed to provide an 18-month cycle with approximately 16 months of full power operations. Consequently, the primary containment isolation valves are normally exposed to 18 months of rated temperature conditions between each Type C test. Since the initial Type C tests at the Hope Creek Generating Station, these valves will have been subjected to rated temperature conditions approximately equal to one 18-month operating cycle by the first refueling outage. An extension of the Type C test interval to the first refueling outage is not unrealistic when the intent of the Type "C" test schedule specified by the Technical Specifications and Appendix J is considered.

For these reasons, the proposed temporary amendment to the Hope Creek Operating License does not constitute a significant hazards consideration in that it would not:

1. Involve a significant increase in the probability or consequences of an accident previously evaluated since the extension of the surveillance intervals is consistent with the intent of the regulations, when considering the operating conditions to which the subject valves have been exposed; or

2. Create the possibility of a new type of accident or a different kind of accident from any accident previously analyzed in that current analyses assume certain values of containment leakage; therefore, new accident scenarios are not credible based upon scheduling of this testing alone; or

3. Involve a significant reduction in the margin of safety because, based on initial LLRT results, these valves have exhibited a high degree of leak tight reliability. Additionally, the valves will be exposed to operating conditions consistent with those normally experienced between testing intervals.

The requested amendment concerns scheduler relief for surveillance testing of a limited number of containment isolation valves and will not result in a significant change in the amounts or types of effluents that may be released offsite.

There will be no significant increase in individual or cumulative occupation radiation exposure as a result of the requested amendment which merely requests to delay testing."

The staff agrees with the licensee's evaluation and findings as stated above. Accordingly, the staff proposes to determine that the requested amendment does not involve a significant hazards consideration.

Local Public Document Room location: Pennsville Public library, 190 South Broadway, Pennsville, New Jersey 08070

Attorney for licensee: Troy B. Conner, Jr., Esquire, Conner and Wetterhahn, 1747 Pennsylvania Avenue, NW., Washington, DC 20006

NRC Project Director: Walter R. Butler

Sacramento Municipal Utility District, Docket No. 50-312, Rancho Seco Nuclear Generating Station, Sacramento County, California

Date of amendment request: June 13, 1986, as revised January 20, 1987

Description of amendment request: The proposed amendment would revise the reporting requirements of the Technical Specifications to bring them into conformance with the revision to 10 CFR 50.72 and with the new 10 CFR 50.73.

Basis for proposed no significant hazards consideration determination: The Commission has provided guidance concerning the application of standards for determining whether license amendments involve significant hazards considerations by providing certain examples (51 FR 7750). One example of an amendment that is considered not likely to involve a significant hazards consideration is "(vii) A change to conform a license to changes in the regulations, where the license change results in very minor changes to facility operations clearly in keeping with the regulations."

Since the proposed changes deal with reporting requirements and would have little or no effect on facility operations, and are proposed in order to conform to changes in the regulations, they are encompassed by this example. Therefore, the Commission proposes to determine that the proposed amendment does not involve a significant hazards consideration.

Local Public Document Room location: Sacramento City-County Library, 828 I Street, Sacramento, California 95814

Attorney for licensee: David S. Kaplan, Sacramento Municipal Utility District, 6201 S Street, P. O. Box 15830, Sacramento, California 95813

NRC Project Director: George W. Knighton

Sacramento Municipal Utility District, Docket No. 50-312, Rancho Seco Nuclear Generating Station, Sacramento County, California

Date of amendment request: June 20, 1986

Description of amendment request: The amendment would revise Technical Specification Tables 3.5.1-1 and 4.1-1 to reflect instrumentation installed in the Condensate Storage Tank Water Level Monitoring system pursuant to NUREG-0737, Item II.E.1.1.

Basis for proposed no significant hazards consideration determination: The Commission has provided guidance concerning the application of the standards in 10 CFR 50.92 by providing certain examples (51 FR 7750). An example of actions involving no significant hazards considerations is example (ii), an amendment involving a change that constitutes an additional limitation, restriction, or control not presently included in the Technical Specifications. These proposed Technical Specification modifications impose additional limitations, restrictions and controls and therefore fall within this example.

Therefore, since the application for amendment involves proposed changes that are similar to the example for which no significant hazards considerations exist, the Commission has made a proposed determination that the application for amendment involves no significant hazards considerations.

Local Public Document Room location: Sacramento City-County Library, 828 I Street, Sacramento, California 95814

Attorney for licensee: David S. Kaplan, Sacramento Municipal Utility

District, 6201 S Street, P. O. Box 15830, Sacramento, California 95813

NRC Project Director: George W. Knighton

South Carolina Electric and Gas Company, South Carolina Public Service Authority, Docket No. 50-395, Virgil C. Summer Nuclear Station, Unit 1, Fairfield County, South Carolina

Date of amendment request: December 8, 1983

Description of amendment request: The amendment would add to Technical Specification (TS) Table 4.3-1, "Reactor Trip System Instrumentation Surveillance Requirements," a requirement to test reactor trip bypass breakers and would add to the manual reactor trip surveillance test a requirement to independently verify the operability of the undervoltage and shunt trip attachments. Also, the amendment would add to TS Table 3.3-2, "Reactor Trip System Instrumentation Response Times," a response time requirement for reactor trip breakers.

Basis for proposed no significant hazards consideration determination: The Commission has provided certain examples (51 FR 7751) of actions likely to involve no significant hazards considerations. One of these, example (ii), involving no significant hazards considerations is "... a change that constitutes an additional limitation, restriction, or control not presently included in the technical specifications: for example, a more stringent surveillance requirement." The amendment involved here is similar to this example, because it adds testing requirements for reactor trip and bypass breakers. Accordingly, the Commission proposes to determine that this change does not involve significant hazards considerations.

Local Public Document Room location: Fairfield County Library, Garden and Washington Streets, Winnsboro, South Carolina 29180

Attorney for licensee: Randolph R. Mahan, South Carolina Electric and Gas Company, P.O. Box 764, Columbia, South Carolina 29218

NRC Project Director: Elinor G. Adensam

PREVIOUSLY PUBLISHED NOTICES OF CONSIDERATION OF ISSUANCE OF AMENDMENTS TO OPERATING LICENSES AND PROPOSED NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION AND OPPORTUNITY FOR HEARING

The following notices were previously published as separate individual notices. The notice content was the same as above. They were published as individual notices because time did not allow the Commission to wait for this bi-weekly notice. They are repeated here because the bi-weekly notice lists all amendments proposed to be issued involving no significant hazards consideration.

For details, see the individual notice in the **Federal Register** on the day and page cited. This notice does not extend the notice period of the original notice.

Philadelphia Electric Company, Docket No. 50-352, Limerick Generating Station, Unit 1, Montgomery County, Pennsylvania

Date of amendment request: January 30, 1987, as supplemented by letter dated March 27, 1987

Brief description of amendment request: The proposed amendment would change the Technical Specifications (TS) in accordance with the licensee's application for amendment dated January 30, 1987, and as supplemented on March 27, 1987, to permit an increase in the allowable control room air leakage rate. The change to the surveillance requirement in TS 4.7.2.e.3 would allow an increase from 525 cubic feet per minute (cfm) to 2100 cfm in the amount of outside air which must be taken in by the control room heating, ventilating and air conditioning (HVAC) systems in order to maintain a control room internal positive pressure of at least one-eighth inch water gauge during a radiation isolation mode of operation of the control room habitability systems. The change is requested to permit the establishment of a larger opening into the common Unit 1 and 2 control room to facilitate cable pulling associated with the construction of Unit 2.

The control room HVAC systems operate in three modes of operation as follows: (1) the chlorine isolation mode in response to a chlorine accident (2) the other toxic chemical isolation mode in response to other toxic chemical accidents, and (3) the radiation isolation mode in response to a high radiation accident. The response to the other toxic chemical accidents, as required by the degree of severity of the event, is to manually isolate the control room, initiate the control room emergency fresh air supply system (CREFAS) to process the recirculated air through charcoal filters, and use by the operators of self contained breathing apparatus. The response for the chlorine accident is similar except that the isolation is automatic. The response to the radiation accident is to automatically isolate the control room except for a specified intake of outside air which is processed by the CREFAS before being used to maintain the control room at a positive internal pressure.

The proposed change would result in no physical system design changes to the normal control room (CR) HVAC or CREFAS system. A CR admitting 2100 cfm, instead of 525 cfm, in the radiation isolation mode would require a corresponding increase in the flowrate processed by the CREFAS prior to supplying it to the CR. The value of 2100 cfm is within the 3000 cfm capability of the CREFAS as discussed in the FSAR. A control room, that is assumed to be consistent with a demonstrated 2100 cfm inleakage capability when unpressurized and isolated in the chlorine or other toxic chemical isolation mode would require the operators to rely on self contained breathing apparatus at an earlier time (2.1 minutes) than if the leakage were consistent with the lower value of 525 cfm (2.6 minutes).

Date of publication of individual notice in **Federal Register:** (52 FR 11144) April 7, 1987

Expiration date of individual notice: May 7, 1987

Local Public Document Room location: Pottstown Public Library, 500 High Street, Pottstown, Pennsylvania 19464.

NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSE

During the period since publication of the last bi-weekly notice, the Commission has issued the following amendments. The Commission has determined for each of these amendments that the application complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment.

Notice of Consideration of Issuance of Amendment to Facility Operating License and Proposed No Significant Hazards Consideration Determination and Opportunity for Hearing in connection with these actions was published in the **Federal Register** as indicated. No request for a hearing or petition for leave to intervene was filed following this notice.

Unless otherwise indicated, the Commission has determined that these amendments satisfy the criteria for categorical exclusion in accordance with 10 CFR 51.22. Therefore, pursuant

to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared for these amendments. If the Commission has prepared an environmental assessment under the special circumstances provision in 10 CFR 51.12(b) and has made a determination based on that assessment, it is so indicated.

For further details with respect to the action see (1) the applications for amendments, (2) the amendments, and (3) the Commission's related letters, Safety Evaluations and/or Environmental Assessments as indicated. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, NW., Washington, DC, and at the local public document rooms for the particular facilities involved. A copy of items (2) and (3) may be obtained upon request addressed to the U.S. Nuclear Regulatory Commission, Washington, DC 20555, Attention: Director, Division of Licensing.

Alabama Power Company, Docket Nos. 50-348 and 50-364, Joseph M. Farley Nuclear Plant, Unit Nos. 1 and 2, Houston County, Alabama.

Date of application for amendments: December 9, 1985, as supplemented February 18, 1986

Brief description of amendments: The amendments are advinistrative changes to the Technical Specifications involving 16 areas.

Date of issuance: April 10, 1987

Effective date: April 10, 1987

Amendment Nos.: 70 and 62

Facilities Operating License Nos. NPF-2 and NPF-8. Amendments revised the Technical Specifications.

Date of initial notice in **Federal Register:** April 23, 1986 (51 FR 15392)

The Commission's related evaluation of the amendment is contained in a Safety Evaluation dated April 10, 1987.

No significant hazards consideration comments received: No

Local Public Document Room location: George S. Houston Memorial Library, 212 W. Burdeshaw Street, Dothan, Alabama 36303

Carolina Power & Light Company, Docket No. 50-325, Brunswick Steam Electric Plant, Unit 1, Brunswick County, North Carolina

Date of application for amendment: December 2, 1986

Brief description of amendment: The amendment changes Section 3/4.1.5 of the Technical Specifications by revising the standby liquid control system (SLCS) pump relief valve setpoint and the sodium pentaborate solution concentration curve to satisfy the ATWS rule requirements specified in 10 CFR 50.62. In addition the SLCS pump flow surveillance requirements are clarified.

Date of issuance: April 10, 1987

Effective date: April 10, 1987

Amendment No.: 106

Facility Operating License No. DPR-71: Amendment revised the Technical Specifications.

Date of initial notice in **Federal Register:** January 27, 1987 (52 FR 2874)

The Commission's related evaluation of the amendment is contained in a Safety Evaluation dated April 10, 1987.

No significant hazards consideration comments received: No.

Local Public Document Room location: University of North Carolina at Wilmington, William Madison Randall Library, 601 S. College Road, Wilmington, North Carolina 28403-3297.

Commonwealth Edison Company, Docket No. 50-374, La Salle County Station, Unit 2, La Salle County, Illinois

Date of application for amendment: December 9, 1986

Brief description of amendment: The amendment revises the La Salle Unit 2 Technical Specifications to support the operation of La Salle County Station, Unit 2 at full rated power during the upcoming Cycle 2 operation. The amendment to support this reload changes the Technical Specifications in the following areas: (1) establishes operating limits for all fuel types for the upcoming Cycle 2 operation; (2) establishes a new safety limit minimum critical power ratio value; (3) establishes a new maximum average planar linear heat generation rate curve for the new fuel; (4) reflects the placement of approximately 30 percent of the core with new General Electric (GE) prepressurized barrier assemblies for the upcoming Cycle 2 operation; (5) modifies the Bases to account for the use of the new GE fuel assemblies; and (6) addresses the area of thermal-hydraulic stability for single loop operation.

This reload will consist of 764 fuel assemblies, 540 of which are once burned non-pressurized GE fuel assemblies and 224 of which are new GE prepressurized barrier fuel assemblies. This new fuel bundle design has been approved by the staff; as described in Amendment 13 to the GE Report, NEDE-24011-A-7, August 1985, "General Electric Standard Application for Reactor Fuel," (GESTAR II).

Thus, this core reload involves the use of fuel assemblies that are not significantly different from those found acceptable to the Commission. The proposed changes to the Technical Specifications reflect the new operating limits associated with new fuel to be inserted into the core, are based on new core physics analyses, address the stability of single-loop operation, and are within the acceptance criteria.

Date of issuance: April 16, 1987

Effective date: Upon startup following the first refueling outage

Amendment No. 32

Facility Operating License No. NPF-18. Amendment revises the Technical Specifications.

Date of initial notice in **Federal Register:** January 28, 1987 (52 FR 2877)

The Commission's related evaluation of the amendment is contained in a Safety Evaluation dated April 16, 1987.

No significant hazards consideration comments received: No

Local Public Document Room location: Public Library of Illinois Valley Community College, Rural Route No. 1, Oglesby, Illinois 61348

Commonwealth Edison Company, Docket No. 50-374, La Salle County Station, Unit 2, La Salle County, Illinois

Date of application for amendment: February 26, 1987

Brief description of amendment: The amendment to Operating License No. NPF-18 reflects a low and/or degraded grid voltage modification as required by License Condition 2.C.(11) for Unit 2. These modifications have already been installed on Division II and III of the electrical divisions for Unit 2. The modifications to Division I will be completed prior to startup after the first refueling outage as required by the Unit 2 license.

The installation of this modification to Unit 2 Division I will make the protection for all electrical divisions the same. This amendment reflects this in the Unit 2 Technical Specifications.

Date of issuance: April 14, 1987

Effective date: Upon startup following the first Unit 2 refueling outage.

Amendment No.: 31

Facility Operating License No. NPF-18: Amendment revises the Techincal Specifications.

Date of initial notice in **Federal Register:** March 12, 1987 (51 FR 7879)

The Commission's related evaluation of the amendment is contained in a Safety Evaluation dated April 14, 1987.

No significant hazards consideration comments received: No.

Local Public Document Room location: Public Library of Illinois Valley Community College, Rural Route No. 1, Oglesby, Illinois 61346

Consolidated Edison Company of New York, Docket No. 50-247, Indian Point Nuclear Generating Unit No. 2, Westchester County, New York

Date of application for amendment: December 27, 1985, as supplemented December 31, 1986, January 27, 1987 and March 3, 1987.

Brief description of amendment: The amendment changes the expiration date for Facility Operating License DPR-26 from October 14, 2006 to September 28, 2013.

Date of issuance: April 21, 1987

Effective date: April 21, 1987

Amendment No.: 118

Facilities Operating License No. DPR-26: Amendment revised the Technical Specifications.

Date of initial notice in **Federal Register:** January 15, 1986 (51 FR 1874)

The Commission's related evaluation of the amendment is contained in a Safety Evaluation dated April 21, 1987. An Environmental Assessment was published in the Federal Register on April 9, 1987 (52 FR 11577).

No significant hazards consideration comments received: No

Local Public Document Room location: White Plains Public Library, 100 Martine Avenue, White Plains, New York 10610

Duke Power Company, Docket Nos. 50-369 and 50-370, McGuire Nuclear Station, Units 1 and 2, Mecklenburg County, North Carolina

Date of application for amendments: May 14, 1986, as revised or supplemented July 14 and November 21, 1986, and March 12, 1987

Brief description of amendments: The amendments change Technical Specification Tables 3.6-1 and 3.6-2 to reflect a change in service for containment penetration M348.

Date of issuance: April 10, 1987

Effective date: April 10, 1987

Amendment Nos.: 70 and 51

Facility Operating License Nos. NPF-9 and NPF-17: Amendments revised the Technical Specifications.

Dates of initial notices in **Federal Register:** August 27, 1986 (51 FR 30571) and November 19, 1986 (51 FR 41852)

The Commission's related evaluation of the amendments is contained in a Safety Evaluation dated April 10, 1987

No significant hazards consideration comments received: No

Local Public Document Room location: Atkins Library, University of North Carolina, Charlotte (UNCC Station), North Carolina 28223

Duquesne Light Company, Docket No. 50-334, Beaver Valley Power Station, Unit No. 1, Shippingport, Pennsylvania

Date of application for amendment: July 25, 1986 (Change Request No. 125)

Brief description of amendment: The amendment changes the Technical Specifications to comply with Revision 5 of the Westinghouse Standard Technical Specifications for three steam line isolation signals.

Date of issuance: April 21, 1987

Effective date: April 21, 1987

Amendment No. 106

Facility Operating License No. DPR-66: Amendment revised the Technical Specifications.

Date of initial notice in **Federal Register:** October 22, 1986 (51 FR 37509)

The Commission's related evaluation of the amendment is contained in a Safety Evaluation dated April 21, 1987

No significant hazards consideration comments received: No

Local Public Document Room location: B. F. Jones Memorial Library, 663 Franklin Avenue, Aliquippa, Pennsylvania 15001.

Florida Power and Light Company, Docket No. 50-251, Turkey Point Plant Unit 4, Dade County, Florida

Date of application for amendment: February 20, 1987

Brief description of amendment: The amendment adds License Condition 3.J regarding implementation of the International Atomic Energy Agency (IAEA) Safeguards at the Turkey Point Plant, Unit 4.

Date of issuance: April 10, 1987

Effective date: April 10, 1987

Amendment No.: 117

Facility Operating License No. DPR-41: Amendment revised the License.

Date of initial notice in **Federal Register:** March 10, 1987 (52 FR 7346)

The Commission's related evaluation of the amendment is contained in a Safety Evaluation dated April 10, 1987.

No significant hazards consideration comments received: No

Local Public Document Room location: Environmental and Urban Affairs Library, Florida International University, Miami, Florida 33199

General Public Utilities Nuclear Corporation, Docket No. 50-320, Three Mile Island Nuclear Station Unit 2, Dauphin County, Pennsylvania

Dates of application for amendment: June 18, 1985 and July 31, 1985 as supplemented by letters dated November 20, 1985, February 26, 1986 and May 20, 1986.

Brief description of amendment: The amendment revises the Technical Specifications by: (1) deleting operability requirements for the diesel generators, and (2) modifying operability requirements for the control room emergency air cleanup system, the fuel handling building air cleanup system and the auxiliary building air cleanup system.

Date of issuance: April 17, 1987

Effective date: April 17, 1987

Amendment No.: 27

Facility Operating Licensing No. DPR-73: Amendment revised the Technical Specifications.

Date of Initial Notices in **Federal Register:** February 11, 1987 (52 FR 4408 and 4409)

The Commission's related evaluation is contained in a Safety Evaluation dated April 17, 1987. No significant hazards consideration comments were received.

Local Public Document Room location: Government Publications Section, State Library of Pennsylvania, Education Building, Commonwealth and Walnut Streets, Harrisburg, Pennsylvania.

GPU Nuclear Corporation, Docket No. 50-219, Oyster Creek Nuclear Generating Station, Ocean County, New Jersey

Date of amendment request: November 26, 1986 (TSCR 152)

Description of amendment request: The amendment adds requirements to Sections 3.1 and 4.1, Protective Instrumentation; Section 3.5, Containment; and Sections 3.13 and 4.13, Accident Monitoring Instrumentation, of the Appendix A Technical Specifications (TS). These new requirements concern limiting conditions for operation and surveillance on the containment high range radiation monitors and the isolation capability upon high radiation of the large containment vent and purge isolation valves. The amendment authorizes the following: (1) adding the containment high radiation trip system to isolate the large containment vent and purge valves to Table 3.1.1 and text to the Bases for Table 3.1.1; (2) identifying these large valves in Table 3.5.2; (3) adding the limiting conditions for plant operation for the containment high range radiation monitors in Section 3.13 and Table 3.13.1; (4) adding the surveillance on the containment high range radiation monitor trip instrumentation for its containment isolation function to Tables 4.1.1 and 4.1.2; and (5) adding surveillance requirements for the containment high range radiation monitors, to monitor high radiation, to Section 4.13 and Table 4.13.1.

Date of issuance: March 31, 1987
Effective date: March 31, 1987
Amendment No.: 116
Provisional Operating License No. DPR-16. Amendment revised the Technical Specifications.
Date of initial notice in Federal Register: December 17, 1986 (51 FR 45202). The Commission's related evaluation of this amendment is contained in a Safety Evaluation dated March 31, 1987.
No significant hazards consideration comments received: No.
Local Public Document Room location: Ocean County Library, 101 Washington Street, Toms River, New Jersey 08753

GPU Nuclear Corporation, Docket No. 50-219, Oyster Creek Nuclear Generating Station, Ocean County, New Jersey

Date of application for amendment: November 28, 1986 (TSCR 151)
Brief description of amendment: The amendment authorizes limiting conditions for operation (LCO) and surveillance requirements pertaining to control room habitability to the Appendix A Technical Specifications (TS). It adds two new sections numbered 3.17 and 4.17, Control Room Heating, Ventilating and Air-Conditioning System, to the TS. Section 3.17 states when the control room heating, ventilating and air-conditioning (HVAC) system is required to be operable, the actions to be taken if it is determined to be inoperable and the basis for the requirements. Section 4.17 lists the surveillance tests to be made on the HVAC system, the frequency of these tests and the basis for the surveillance.
Date of issuance: March 31, 1987
Effective date: March 31, 1987
Amendment No.: 115
Provisional Operating License No. DPR-16. Amendment revised the Technical Specifications.
Date of initial notice in Federal Register: January 14, 1987 (52 FR 1554).
The Commission's related evaluation of this amendment is contained in a Safety Evaluation dated March 31, 1987.
No significant hazards consideration comments received: No.
Local Public Document Room location: Ocean County Library, 101 Washington Street, Toms River, New Jersey 08753

Gulf States Utilities Company, Docket No. 50-458, River Bend Station, Unit 1 West Feliciana Parish, Louisiana

Date of application for amendment: January 28, 1987
Brief description of amendment: This amendment changed the Technical Specifications requirements to perform the drywell bypass leakage rate test at intervals no greater than 18 months to permit a maximum allowable extension of this test not to exceed 25% of the 18 months interval.
Date of issuance: April 23, 1987
Effective date: April 23, 1987
Amendment No. 4
Facility Operating License No. NPF-47. This amendment revised the Technical Specifications.
Date of initial notice in Federal Register: March 12, 1987 (52 FR 7684). The Commission's related evaluation of the amendment is contained in a Safety Evaluation dated April 23, 1987
No significant hazards consideration comments received: No
Local Public Document Room location: Government Documents Department, Louisiana State University, Baton Rouge, Louisiana 70803

Indiana and Michigan Electric Company, Docket Nos. 50-315 and 50-316, Donald C. Cook Nuclear Plant, Unit Nos. 1 and 2, Berrien County, Michigan

Date of application for amendments: October 11, 1985
Brief description of amendments: The amendments revise the Technical Specification by adding provisions for the Reactor Vessel Level Instrumentation (RVLIS) and the Core Exit Thermocouples for detection of inadequate core cooling in response to the requirements of NUREG-0737 following the Three Mile Island accident.
Date of issuance: April 10, 1987
Effective date: April 10, 1987
Amendment Nos.: 106 and 92
Facility Operating License Nos. DPR-58 and DPR-74. Amendments revised the Technical Specifications.
Date of initial notice in Federal Register: December 4, 1985 (50 FR 49785) The Commission's related evaluation of the amendments is contained in a Safety Evaluation dated April 10, 1987
No significant hazards consideration comments received: No
Local Public Document Room location: Maude Preston Palenske Memorial Library, 500 Market Street, St. Joseph, Michigan 49085

Indiana and Michigan Electric Company, Docket No. 50-315, Donald C. Cook Nuclear Plant, Unit No. 1, Berrien County, Michigan

Date of application for amendment: January 9, 1987
Brief description of amendment: The amendment changes the Technical Specifications to allow certain tests or surveillances to be delayed until the end of the next refueling outage currently scheduled to begin during the second quarter of 1987. These tests include battery charger and battery service tests on the AB and CD batteries, response time testing of equipment which actuates on an engineered safety feature (ESF) signal, channel calibration of seismic monitoring instrumentation, power operated relief valve (PORV) calibration, inspection of containment penetration seals on doors and hatches, channel calibration of the safety valve position indicator acoustic monitor and tests of the lower inlet doors and monitoring system for ice condenser lower inlet doors. The proposed extension of surveillances on the reserve power transfer, and on the pressurizer heaters was withdrawn by the licensee. These surveillances were performed during an unplanned outage in early April 1987.
Date of issuance: April 17, 1987
Effective date: April 17, 1987
Amendment No.: 107
Facility Operating License No. DPR-58. Amendment revised the Technical Specifications.
Date of initial notice in Federal Register: February 11, 1987 (52 FR 4409) The Commission's related evaluation of the amendment is contained in a Safety Evaluation dated April 17, 1987
No significant hazards consideration comments received: No
Local Public Document Room location: Maude Preston Palenske Memorial Library, 500 Market Street, St. Joseph, Michigan 49085

Nebraska Public Power District, Docket No. 50-298, Cooper Nuclear Station, Nemaha County, Nebraska

Date of amendment request: July 2, 1986 as supplemented December 29, 1986
Brief description of amendment: The amendment changes the Technical Specifications to incorporate various changes to the Scram and Rod Block Instrumentation.
Date of issuance: April 20, 1987
Effective date: April 20, 1987
Amendment No.: 108
Facility Operating License No. DPR-62. Amendment revised the Technical Specifications.
Date of initial notice in Federal Register: August 27, 1986 (51 FR 30578) The December 29, 1986 letter clarified, without substantially changing, the July 2 application.
The Commission's related evaluation of the amendment is contained in a Safety Evaluation dated April 20, 1987.
No significant hazards consideration comments received: No.

Local Public Document Room location: Auburn Public Library, 118 15th Street, Auburn, Nebraska 68305

Northeast Nuclear Energy Company, et al., Docket No. 50-336, Millstone Nuclear Power Station Unit No. 2, Town of Waterford, Connecticut

Date of application for amendment: February 6, 1987

Brief description of amendment: The change modified the Technical Specifications (TS) as follows: (1) a new Limiting Condition for Operation (LCO) and a corresponding Surveillance Requirement (SR), TS 3/4.1.7 "Control Rod Drive Mechanisms," assures that control rods cannot be withdrawn prior to establishing conditions consistent with the safety analysis, and (2) a change to the LCO and SR for the reactor protection system (RPS), TS 3/4.3.1, extends operability and surveillance requirements, for the Power Level-High trip function, to Mode 3.

Date of issuance: April 21, 1987

Effective date: April 21, 1987

Amendment No.: 116

Facility Operating License No. DPR-69. Amendment revised the Technical Specifications.

Date of initial notice in **Federal Register:** March 12, 1987 (52 FR 7675 at 7687)

The Commission's related evaluation of the amendment is contained in a Safety Evaluation dated April 21, 1987.

No significant hazards consideration comments received: No.

Local Public Document Room location: Waterford Public Library, Rope Ferry Road, Waterford, Connecticut.

Pennsylvania Power and Light Company Docket No. 50-388, Susquehanna Steam Electric Station, Unit 2, Luzerne County, Pennsylvania

Date of application for amendment: June 23, 1986

Brief description of amendment: This amendment revises the Unit 2 Technical Specifications to permit raising the Main Steam Line Radiation Monitor-High Setpoint from three times the background to seven times the background radiation.

Date of issuance: April 22, 1987

Effective date: April 22, 1987

Amendment No.: 35

Facility Operating License No. NPF-22: Amendment revises the Technical Specifications.

Date of initial notice in **Federal Register:** March 12, 1987 (52 FR 7691). The Commission's related evaluation of the amendments is contained in a Safety Evaluation dated April 22, 1987

No significant hazards consideration comments received: No.

Local Public Document Room location: Osterhout Free Library, Reference Department, 71 South Franklin Street, Wilkes-Barre, Pennsylvania 18701

Portland General Electric Company, et al., Docket No. 50-344, Trojan Nuclear Plant, Columbia County, Oregon

Date of application for amendment: September 13, 1985 as superseded and revised August 7, and December 31, 1986.

Brief description of amendment: The amendment changes the Administrative Controls section of the Technical Specifications by redefining and clarifying the review responsibilities of the Plant Review Board (PRB) and the Plant General Manager.

Date of issuance: April 9, 1987

Effective date: April 9, 1987

Amendment No.: 128

Facilities Operating License No. NPF-1: Amendment revised the Technical Specifications.

Date of initial notice in **Federal Register:** December 4, 1985 (50 FR 49789) as amended January 28, 1987 (52 FR 2886)

The Commission's related evaluation of the amendment is contained in a Safety Evaluation dated April 9, 1987.

No significant hazards consideration comments received: No.

Local Public Document Room location: Multnomah County Library, 801 S. W. 10th Avenue, Portland, Oregon

Portland General Electric Company, et al., Docket No. 50-344, Trojan Nuclear Plant, Columbia County, Oregon

Date of application for amendment: October 17, 1986, as supplemented January 14, 1987.

Brief description of amendment: The amendment revises Technical Specification Section 4.6.3.1.2 to allow containment isolation valve stroke testing without MODE limitation.

Date of issuance: April 22, 1987

Effective date: April 22, 1987

Amendment No.: 129

Facilities Operating License No. NPF-1: Amendment revised the Technical Specifications.

Date of initial notice in **Federal Register:** March 12, 1987 (52 FR 7695) The Commission's related evaluation of the amendment is contained in a Safety Evaluation dated April 22, 1987

No significant hazards consideration comments received: No.

Local Public Document Room location: Multnomah County Library, 801 S. W. 10th Avenue, Portland, Oregon 97205

Portland General Electric Company, et al., Docket No. 50-344, Trojan Nuclear Plant, Columbia County, Oregon

Date of application for amendment: October 29, 1985, as revised January 9, 1987.

Brief description of amendment: The amendment revises Technical Specification Section 3.7.1.4 to reflect an increase in the minimum water level required to be maintained in the condensate storage tank.

Date of issuance: April 22, 1987

Effective date: April 22, 1987

Amendment No.: 130

Facilities Operating License No. NPF-1: Amendment revised the Technical Specifications.

Date of initial notice in **Federal Register:** March 12, 1987 (52 FR 7694) The Commission's related evaluation of the amendment is contained in a Safety Evaluation dated April 22, 1987

No significant hazards consideration comments received: No.

Local Public Document Room location: Multnomah County Library, 801 S. W. 10th Avenue, Portland, Oregon 97205

Portland General Electric Company, et al., Docket No. 50-344, Trojan Nuclear Plant, Columbia County, Oregon

Date of application for amendment: January 30, 1985, as revised and supplemented September 23, 1985, July 3, August 22 and October 17, 1986.

Brief description of amendment: The amendment provides numerous changes to the reactor trip system and engineered safety features actuation system instrumentation requirements. By letter dated March 23, 1987, PGE requested that the portion of this application pertaining to proposed change D.14.b regarding intermediate range neutron flux instrumentation be withdrawn.

Date of issuance: April 22, 1987

Effective date: Thirty days after date of issuance.

Amendment No.: 131

Facilities Operating License No. NPF-1: Amendment revised the Technical Specifications.

Date of initial notice in **Federal Register:** November 19, 1986 (51 FR 41864) The Commission's related evaluation of the amendment is contained in a Safety Evaluation dated April 22, 1987

No significant hazards consideration comments received: No.

Local Public Document Room location: Multnomah County Library, 801 S. W. 10th Avenue, Portland, Oregon 97205

Power Authority of The State of New York, Docket No. 50-286, Indian Point Unit No. 3, Westchester County, New York

Date of application for amendment: April 18, 1986, as supplemented February 6, 1987.

Brief description of amendment: The amendment revises the Technical Specifications to increase the full power total core peaking factor, F_Q, limit to less than or equal to 2.20. The value of F_Q had been limited to 2.13 as a result of the Confirmatory Order of February 11, 1980. This Order was rescinded on July 5, 1985. The value of 2.20 is the value which would have been allowed absent the Order.

Date of issuance: April 17, 1987

Effective date: April 17, 1987

Amendment No.: 73

Facilities Operating License No. DPR-64: Amendment revised the Technical Specifications.

Date of initial notice in **Federal Register:** June 4, 1986 (51 FR 20372) and March 12, 1987 (52 FR 7695).

The Commission's related evaluation of the amendment is contained in a Safety Evaluation dated April 17, 1987.

No significant hazards consideration comments received: No

Local Public Document Room location: White Plains Public Library, 100 Martine Avenue, White Plains, New York 10610

South Carolina Electric & Gas Company, South Carolina Public Service Authority, Docket No. 50-395, Virgil C. Summer Nuclear Station, Unit No. 1, Fairfield County, South Carolina

Date of application for amendment: July 10, 1986

Brief description of amendment: The amendment reduces the reporting requirements regarding iodine activity limits in accordance with Generic Letter 85-19.

Date of issuance: April 9, 1987

Effective date: April 9, 1987

Amendment No. 64

Facility Operating License No. NPF-12. Amendment revised the Technical Specifications.

Date of initial notice in **Federal Register:** August 27, 1986 (51 FR 30580) The Commission's related evaluation of the amendment is contained in a Safety Evaluation dated April 9, 1987.

No significant hazards consideration comments received: No

Local Public Document Room location: Fairfield County Library, Garden and Washington Streets, Winnsboro, South Carolina 29180

South Carolina Electric & Gas Company, South Carolina Public Service Authority, Docket No. 50-395, Virgil C. Summer Nuclear Station, Unit No. 1, Fairfield County, South Carolina

Date of application for amendment: January 8, 1987

Brief description of amendment: The amendment changes the units for the intermediate range nuclear instrumentation from current (AMPS) to the equivalent percent indication.

Date of issuance: April 14, 1987

Effective date: April 14, 1987

Amendment No. 65

Facility Operating License No. NPF-12. Amendment revised the Technical Specifications.

Date of initial notice in **Federal Register:** March 12, 1987 (52 FR 7696) The Commission's related evaluation of the amendment is contained in a Safety Evaluation dated April 14, 1987.

No significant hazards consideration comments received: No

Local Public Document Room location: Fairfield County Library, Garden and Washington Streets, Winnsboro, South Carolina 29180

Southern California Edison Company et al., Docket No. 50-206, San Onofre Nuclear Generating Station, Unit No. 1, San Diego County, California

Date of application for amendment: November 12, 1986.

Brief description of amendment: The amendment lowers the pressurizer high level reactor trip set point from 27.3 feet to 20.8 feet above the bottom of the pressurizer.

Date of issuance: April 7, 1987

Effective date: On the date of issuance to be fully implemented no later than 30 days from the date of issuance.

Amendment No.: 97

Provisional Operating License No. DPR-13. Amendment revised the Technical Specifications.

Date of initial notice in **Federal Register:** February 11, 1987 (52 FR 4418) The Commission's related evaluation of the amendment is contained in a Safety Evaluation dated April 7, 1987.

No significant hazards consideration comments received: No.

Local Public Document Room location: Main Library, University of California, P. O. Box 19557, Irvine, California 92713

Southern California Edison Company et al., Docket No. 50-206, San Onofre Nuclear Generating Station, Unit No. 1, San Diego County, California

Date of application for amendment: May 23, 1984, as revised on August 29, 1985 and supplemented on March 26, 1986, October 14, 1986 and March 23, 1987.

Brief description of amendment: The amendment adds a license condition which establishes an Intergrated Implementation Schedule Program Plan and requires that Southern California Edison Company, et al., follow the plan and the terms therein for establishing and revising schedules for specific plant modifications.

Date of issuance: April 20, 1987

Effective date: April 20, 1987, to be fully implemented within 30 days of the date of issuance.

Amendment No.: 98

Provisional Operating License No. DPR-13: Amendment added a new License Condition.

Date of initial notice in **Federal Register:** July 24, 1984 (49 FR 29921) and November 20, 1985 (50 FR 47870). The Commission's related evaluation of the amendment is contained in a Safety Evaluation dated April 20, 1987.

No significant hazards consideration comments received: No.

Local Public Document Room location: General Library, University of California, P.O. Box 19557, Irvine, California 92713

Union Electric Company, Docket No. 50-483, Callaway Plant, Unit 1, Callaway County, Missouri

Date of application for amendment: December 30, 1986, as supplemented March 13, 1987

Brief description of amendment: The amendment changes the Technical Specifications to delete the trip functions of the containment atmosphere radiation monitors associated with containment purge isolation and control room ventilation.

Date of issuance: April 10, 1987

Effective date: April 10, 1987

Amendment No.: 20

Facility Operating License No. NPF-30. Amendment revised the Technical Specifications.

Date of initial notice in **Federal Register:** January 28, 1987 (52 FR 2894) The Commission's related evaluation of the amendment is contained in a Safety Evaluation dated April 10, 1987

No significant hazards consideration comments received: No

Local Public Document Room location: Fulton City Library, 709 Market Street, Fulton, Missouri 65251 and the Olin Library of Washington University, Skinker and Lindell Boulevards, St. Louis, Missouri 63130

Virginia Electric and Power Company, et al., Docket Nos. 50-338 and 50-339, North Anna Power Station, Units No. 1 and No. 2, Louisa County, Virginia

Date of application for amendments: December 22, 1986

Brief description of amendments: The amendments increase the boron concentration in the refueling water storage tank, the casing cooling tank and the accumulators. The increase in boron concentration is required to maintain the design shutdown margin (reactivity control requirements) at refueling conditions due to the transition to eighteen month refuelings and the recent core power increase for NA-1&2.

Date of issuance: April 14, 1987

Effective date: Prior to restart after the Cycle 6 and Cycle 5 refueling outages for NA-1&2, respectively.

Amendment Nos.: 93 and 78

Facility Operating License Nos. NPF-4 and NPF-7. Amendments revised the Technical Specifications.

Date of initial notice in **Federal Register:** March 12, 1987 (52 FR 7700) The Commission's related evaluation of the amendments is contained in a Safety Evaluation dated April 14, 1987.

No significant hazards consideration comments received: No.

Local Public Document Room locations: Board of Supervisors Office, Louisa County Courthouse, Louisa, Virginia 23093, and the Alderman Library, Manuscripts Department, University of Virginia, Charlottesville, Virginia 22901

Washington Public Power Supply System, Docket No. 50-397, WNP-2, Richland, Washington

Date of amendment request: December 12, 1986

Brief description of amendment: This amendment revises the WNP-2 Technical Specification 3/4.7.4 to: 1) permit the removal of snubbers for maintenance or testing (while in Operational Condition 4 or 5) without having to declare the associated system inoperable provided their removal is substantiated by engineering analysis, and 2) reduce the minimum time interval between inspections.

Date of issuance: April 21, 1987

Effective date: April 21, 1987

Amendment No.: 40

Facility Operating License No. NPF-21: Amendment revises the Technical Specifications.

Date of initial notice in **Federal Register:** February 26, 1987 (52 FR 5872) The Commission's related evaluation of the amendment is contained in a Safety Evaluation dated April 21, 1987

No significant hazards consideration comments received: No.

Local Public Document Room location: Richland Public Library, Swift and Northgate Streets, Richland, Washington 99352

NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSE AND FINAL DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATION AND OPPORTUNITY FOR HEARING (EXIGENT OR EMERGENCY CIRCUMSTANCES)

During the period since publication of the last bi-weekly notice, the Commission has issued the following amendments. The Commission has determined for each of these amendments that the application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment.

Because of exigent or emergency circumstances associated with the date the amendment was needed, there was not time for the Commission to publish, for public comment before issuance, its usual 30-day Notice of Consideration of Issuance of Amendment and Proposed No Significant Hazards Consideration Determination and Opportunity for Hearing. For exigent circumstances, the Commission has either issued a **Federal Register** notice providing opportunity for public comment or has used local media to provide notice to the public in the area surrounding a licensee's facility of the licensee's application and of the Commission's proposed determination of no significant hazards consideration. The Commission has provided a reasonable opportunity for the public to comment, using its best efforts to make available to the public means of communication for the public to respond quickly, and in the case of telephone comments, the comments have been recorded or transcribed as appropriate and the licensee has been informed of the public comments.

In circumstances where failure to act in a timely way would have resulted, for example, in derating or shutdown of a nuclear power plant or in prevention of either resumption of operation or of increase in power output up to the plant's licensed power level, the Commission may not have had an opportunity to provide for public comment on its no significant hazards determination. In such case, the license amendment has been issued without opportunity for comment. If there has been some time for public comment but less than 30 days, the Commission may provide an opportunity for public comment. If comments have been requested, it is so stated. In either event, the State has been consulted by telephone whenever possible.

Under its regulations, the Commission may issue and make an amendment immediately effective, notwithstanding the pendency before it of a request for a hearing from any person, in advance of the holding and completion of any required hearing, where it has determined that no significant hazards consideration is involved.

The Commission has applied the standards of 10 CFR 50.92 and has made a final determination that the amendment involves no significant hazards consideration. The basis for this determination is contained in the documents related to this action. Accordingly, the amendments have been issued and made effective as indicated.

Unless otherwise indicated, the Commission has determined that these amendments satisfy the criteria for categorical exclusion in accordance with 10 CFR 51.22. Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared for these amendments. If the Commission has prepared an environmental assessment under the special circumstances provision in 10 CFR 51.12(b) and has made a determination based on that assessment, it is so indicated.

For further details with respect to the action see (1) the application for amendment, (2) the amendment to Facility Operating License, and (3) the Commission's related letter, Safety Evaluation and/or Environmental Assessment, as indicated. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, NW., Washington, DC, and at the local public document room for the particular facility involved.

A copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, DC 20555, Attention: Director, Division of Licensing.

The Commission is also offering an opportunity for a hearing with respect to the issuance of the amendments. By June 5, 1987, the licensee may file a request for a hearing with respect to issuance of the amendment to the subject facility operating license 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 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 which 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.

Since the Commission has made a final determination that the amendment involves no significant hazards consideration, if a hearing is requested, it will not stay the effectiveness of the amendment. Any hearing held would take place while the amendment is in effect.

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, 1717 H 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 (800) 325-6000 (in Missouri (800) 342-6700). The Western Union operator should be given Datagram Identification Number 3737 and the following message addressed to (*Project Director*): 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-Bethesda, U.S. Nuclear Regulatory Commission, Washington, DC 20555, and to the 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 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).

Cleveland Electric Illuminating Company, Duquesne Light Company, Ohio Edison Company, Pennsylvania Power Company, Toledo Edison Company, Docket No. 50-440, Perry Nuclear Power Plant, Unit No. 1, Lake County, Ohio

Date of application for amendment: March 9, 1987, as supplemented on March 19, 20, 31 and April 1, 7 and 10, 1987.

Brief description of amendment: The amendment changed the Technical Specifications to require the reactor core isolation cooling (RCIC) system to be operable with the exception that the RCIC injection shall not be capable of automatic opening. This exception is in effect at power levels limited according to the results of RCIC tests to be conducted upon resumption of plant operation and it expires on May 31, 1987. During this period, the provisions of Technical Specification 3.0.4 are not applicable.

Date of Issuance: April 20, 1987

Effective Date: April 10, 1987

Amendment No.: 4

Facility Operating License No. NPF-58: Amendment revised the Technical Specifications.

Public comments requested as to proposed no significant hazards consideration: No.

The Commission's related evaluation of the amendment, consultation with the State of Ohio, and final no significant hazards considerations determination are contained in a Safety Evaluated dated April 20, 1987.

Attorney for licensee: Jay Silberg, Esq., Shaw, Pittman, Potts & Trowbridge, 2300 N Street, NW., Washington, DC 20037

Local Public Document Room location: Perry Public Library, 3753 Main Street, Perry, Ohio 44081

NRC Project Director: Martin J. Virgilio

Dated at Bethesda, Maryland this 28th day of April, 1987.

For the Nuclear Regulatory Commission.

Steven A. Varga,

Director, Division of Reactor Projects I/II.

[FR Doc. 87-10197 Filed 5-5-87; 8:45 am]

BILLING CODE 7590-01-D

[Docket Nos. 50-438 and 439]

Tennessee Valley Authority, Bellefonte Nuclear Plant, Units 1 and 2; Environmental Assessment and Finding of No Significant Impact

The Nuclear Regulatory Commission (the Commission) is considering issuance of an extension of the latest construction completion dates specified in Construction Permit Nos. CPPR-122 and CPPR-123 issued to Tennessee Valley Authority (TVA, the applicant) for the Bellefonte Nuclear Plant (BLN), Units 1 and 2, respectively. The facility is located at the applicant's site on a peninsula at Tennessee River Mile (TRM) 392 on the West shore of Guntersville Reservoir about 6 miles east-northeast of Scottsboro, Alabama.

Environmental Assessment

Identification of Proposed Action

The proposed action would extend the latest construction completion date of Construction Permit no. CPPR-122 to

July 1, 1994 and the latest construction completion date of Construction Permit No. CPPR–123 to July 1, 1996. The proposed action is in response to the applicant's request date September 30, 1986.

The Need for the Proposed Action

The proposed action is needed because the construction of the facility is not yet fully completed. The applicant states that this extension is necessary because recent power usage projections for the TVA system indicate that power from BLN Units 1 and 2 will not be needed until the early to mid-1990's. Accordingly, construction activity on BLN has been reduced so both units will be brought into operation closer to the revised load forecast need dates. According to TVA, Unit 1 is approximately 87% complete and Unit 2 is approximately 57% complete. It is estimated that an additional 24 months of work after completion of Unit 1 will be required to complete Unit 2.

Environmental Impacts of the Proposed Action

The environmental impacts associated with the construction of the facility have been previously discussed and evaluated in TVA's Final Environmental Statement (FES) issued in June 1974 for the construction permit stage which covered construction of both units.

The proposed extension will not allow any work to be performed that is not already allowed by the existing construction permit. The probability of accidents has not been increased and post-accident radiological releases will not be greater than previously determined, nor does the proposed extension otherwise affect radiological plant effluents. Therefore, the Commission concludes that there are no significant radiological environmental impacts associated with this proposed extension.

With regard to potential non-radiological impacts, the proposed extension involves features located entirely within the restricted area as defined in 10 CFR Part 20. It does not affect non-radiological plant effluents and has no other environmental impact. This extension does not allow any work to be performed of the type not previously authorized by the existing construction permit. Therefore, the Commission concludes that there are no significant non-radiological environmental impacts associated with this proposed extension.

Alternatives to the Proposed Action

An alternative to the proposed action would be to deny the request. Under this alternative, the applicant would not be able to complete construction of the facility. This would result in denial of the benefit of power production. This option would not eliminate the environmental impacts of construction already incurred.

If construction were halted and not completed, site redress activities would restore some small areas to their natural states. This would be a slight environmental benefit, but much outweighed by the economic losses from denial of use of a facility that is nearly completed. Therefore, this alternative is rejected.

Alternative Use of Resources

This action does not involve the use of resources not previously considered in the FES for the Bellefonte Nuclear plant.

Agencies and Persons Consulted

The NRC staff reviewed the applicant's request and applicable documents referenced therein that support this extension. The NRC did not consult other agencies or persons.

Finding of no Significant Impact

The Commission has determined not to prepare an environmental impact statement for this action. Based upon the environmental assessment, we conclude that this action will not have a significant effect on the quality of the human environment.

For further details with respect to this action, see the request for extension dated September 30, 1986 which is available for public inspection at the Commission's Public Document Room, 1717 H Street, NW., Washington, DC, and at the local public document room, Scottsboro Public Library, 1002 South Broad Street, Scottsboro, Alabama 35668.

Dated at Bethesda, Maryland, this 28th day of April 1987.

For the Nuclear Regulatory Commission.

John A. Zwolinski,

Assistant Director for Projects, Division of TVA Projects, Office of Special Projects.

[FR Doc. 87–10324 Filed 5–5–87; 8:45 am]

BILLING CODE 7590–01–M

[Docket No. 40–0299]

Umetco Minerals Corp.; Draft Finding of No Significant Impact Regarding the Renewal of Source and Byproduct Material License SUA–648 for Operation of the Gas Hills Uranium Mill Located in Natrona County, WY

AGENCY: Nuclear Regulatory Commission.

ACTION: Notice of draft finding of no significant impact.

(1) Proposed Action

The proposed administrative action is to renew Source and Byproduct Material License SUA–648 authorizing Umetco Minerals Corporation to operate their Gas Hills Uranium Mill located in Natrona County, Wyoming.

(2) Reasons for Draft Finding of No Significant Impact

An Environmental Assessment was prepared by the staff at the U.S. Nuclear Regulatory Commission (Commission) and issued by the Commission's Uranium Recovery Field Office, Region IV. The Environmental Assessment performed by the Commission's staff evaluated potential impacts on-site and off-sit due to radiological releases which may occur during the operation of the mill. Documents used in preparing the assessment included operational data from the licensee's prior milling activities, the licensee's renewal application dated December 30, 1985 and the addendums to the renewal application dated January 3 and August 1, 1986, and February 18, 1987 and the Final Environmental Impact Statement prepared by the Commission staff in support of the issuance of the original license in July 1980. Based on this assessment, the Commission has determined that no significant impact will result from the proposed action, and therefore, an additional Environmental Impact Statement is not warranted.

The following statements support the draft finding of no significant impact and summarize the conclusions resulting from the environmental assessment:

(a) Environmental monitoring data gathered during operation of the mill since 1980 indicated that releases of radioactive materials were less than those predicted in the Final Environmental Impact Statement dated July 1980 and were within regulatory limits.

(b) the ground-water monitoring program in effect at the Gas Hills Mill is sufficient to detect releases and thereby minimize any impact on ground-water.

(c) Radiological effluents from the proposed operation of the mill will be minimal and within regulatory limits, and will be monitored by a comprehensive environmental monitoring program.

(d) Radioactive wastes will be minimal and will be disposed of into a below grade pit containing an underdrain system which will be

reclaimed in accordance with applicable Federal and State regulations.

In accordance with 10 CFR 51.33(a), the Director, Uranium Recovery Field Office, made the determination to issue a draft finding of no significant impact and to accept comments on the draft findig for a period of 30 days after issuance in the **Federal Register.**

This finding, together with the environmental assessment setting forth the basis for the finding, is available for public inspection and copying at the Commission's Uranium Recovery Field Office at 730 Simms Street, Golden, Colorado and at the Commission's Public Document Room at 1717 H Street, NW., Washington, DC.

Dated at Denver, Colorado, this 28th day of April, 1987.

For the Nuclear Regulatory Commission.

Harry J. Pettengill,

Chief, Licensing Branch 2, Uranium Recovery Field Office, Region IV.

[FR Doc. 87-10328 Filed 5-5-87; 8:45 am]

BILLING CODE 7590-01-M

[Docket No. 30-18618; DD-87-08]

Chem-Nuclear Systems, Inc.; Receipt of Petition and Issuance of Director's Decision

Notice is hereby given that the Director, Office of Nuclear Material Safety and Safeguards, has received and denied a petition filed under 10 CFR 2.206 by Mrs. Gisela Topolski regarding Chem-Nuclear Systems, Inc. Petitioner requested that the Commission suspend the license of Chem-Nuclear Systems, Inc., Channahon, Illinois, based upon allegations that: (1) The Licensee failed to disclose to local authorities its real intent to use a supercompactor; (2) the Licensee failed to make environmental studies which would have revealed a number of problems with the operation of the supercompactor in what Petitioner deems to be an unsuitable residential area in Channahon, Illinois, (3) the Licensee's change of name of Chem-Nuclear Systems, Inc., did not change its character and that its character is indicated by the conduct of its majority stockholder, Waste Management, Inc., which (a) left 37 states with leaking landfill sites and (b) failed to train its employees; (4) the Licensee's technology and equipment is from the 1950's, and (5) employees who report violations lose their jobs.

The staff has considered the Petitioner's allegations and has determined that they do not provide an adequate basis for the relief requested. The reasons are fully set out in a "Director's Decision Under 10 CFR 2.206" (DD-87-08), a copy of which is available for public inspection in the Commission's Public Document Room located at 1717 H Street NW., Washington, DC 20555 and in the Region III Public Document Room, 799 Roosevelt Road, Glen Ellyn, Illinois 60137.

A copy of the decision will also be filed with the Secretary for the Commission's review in accordance with 10 CFR 2.206(c).

Dated at Silver Spring, Maryland, this 30th day of April 1987.

For the Nuclear Regulatory Commission.

Robert M. Bernero,

Acting Director, Office of Nuclear Material Safety and Safeguards.

[FR Doc. 87-10325 Filed 5-5-87; 8:45 am]

BILLING CODE 7590-01-M

[Docket No. 50-397]

Washington Public Power Supply System (WPPSS Nuclear Project No. 2); Exemption

I

Washington Public Power Supply System (WPPSS or the licensee) is the holder of Facility Operating License No. NPF-21 which authorizes the operation of the WPPSS Nuclear Project No. 2 (WNP-2 or the facility) at steady-state power levels not in excess of 3323 megawatts thermal. The license provides, among other things, that the facility is subject to all rules, regulations and Orders of the Nuclear Regulatory Commission (the Commission) now or hereafter in effect.

The facility is a boiling water reactor (BWR) located at the licensee's site in Benton County, Washington.

II

On February 14, 1973, the Commission published Appendix J to 10 CFR Part 50, "Reactor Containment Leakage Testing for Water-Cooled Power Reactors" (38 FR 4386). Revisions to Appendix J were published in the **Federal Register** on September 22, 1980 (45 FR 62789). Paragraph II.G of Appendix J defines "Types B tests", in part, as those intended to detect local leaks and to measure leakage across each pressure-containing or leakage-limiting boundary for specified containment penetrations. Paragraph II.D.2 declares that "Type B tests shall be performed during reactor shutdown for refueling, or other convenient intervals, but in no case at intervals greater than two years." Paragraph II.H of Appendix J defines "Types C tests", in part, as those intended to measure containment isolation valve leakage rates. Paragraph III.D.3 of Appendix J states, in part, "Type C tests shall be performed during each reactor shutdown for refueling but in no case at intervals greater than two years." By letter dated January 31, 1986, the licensee requested an exemption from the requirement for the Type C testing during each reactor refueling shutdown, and an extension of the maximum interval from 24 to 27 months for both Type B and Type C testing. The Supply System is constrained by the relative abundance of hydro-electric power in the Pacific Northwest during the spring to shutdown every year at that time. Refueling is required during each of these shutdowns to ensure continous operation throughout the remainder of the year when the availability of the nuclear power is critical. Thus the regulation and this weather related peculiarity require the Supply System to perform Type C testing on all specified valves every year. This exemption will permit Type C testing on each affected valve on a two-year cycle with approximately half of Type C valves tested each year during the spring refueling outage. In addition, the maximum allowable interval before retesting is extended to 27 months to allow for variations in the weather related length of the actual refueling cycle from year to year.

III

To support the request exemptions from the requirements of 10 CFR 50, Appendix J, the licensee provided the following rational:

A. The Bonneville Power Administration directs the licensee to refuel WNP-2 on a yearly basis, ideally coinciding with the peak period of hydro-electric generation. Strict compliance with Appendix J would require yearly testing of all Type C barriers. This frequent testing consumes more resources that appropriate, and is not in keeping with ALARA considerations.

B. To utilize fully all sources of power production, WNP-2 refueling outages are establishing based on regional weather as indicated in Section II, above. This approach is scheduling results in either an early or late outage depending on the weather conditions for that particular year. The added variability of the refueling schedule, therefore, should be considered when establishing the allowed maximum interval between tests.

C. The intent of Appendix J is to leak test during a refueling outage, but not to require a shutdown solely for local leak rate testing. Since forecasting the exact date for any given refueling outage is

not exact, the three-month allowance to the two-year test interval would avoid unnecessary plant shutdowns at periods of greatest need.

The staff has reviewed the exemption requests and the associated justification, and believes that the technical rationale has merit. Based on a series of discussions, augmentations, and clarifications to the original request, the licensee has modified the original proposal via a series of letters dated April 11 and July 22, 1986, and January 9, February 11, March 4 and April 7, 1987. The program now consists of the following elements:

1. All barriers that are to be tested under the requirements of 10 CFR Part 50, Appendix J, have been placed into three groups. In one group are the valves that will be tested each refueling outage. The remaining barriers have been divided into two approximately equal groups. These two groups are the barriers that will be alternately tested in two consecutive refueling outages. Testing will be done in the "as found" condition prior to any maintenance or repair of the barrier.

2. All containment barriers tested under Appendix J will be at intervals not to exceed 27 months. Nominally, the maximum testing interval will be 24 months.

3. The testing frequency of the following valves/penetrations will not be affected by this exemption or amendment.

(a) Main Steam Isolation Valves (tested at an interval not to exeed 18 monts);

(b) Containment Purge Supply and Exhaust Valves (6 months);

(c) Personnel Airlock (6 months); and

(d) Reactor Feedwater Check Valves used for Containment Isolation (each refueling).

4. For valves/penetrations which are to be tested every other refueling outage, the licensee will apply acceptance leakage criteria to the test results in addition to the requirements of Appendix J. The licensee's criteria are described below.

For valves, the leakage criterion is based on permissible leakage rates established by the ASME Code, Section XI, Article 3426. The methodology determines the leakage limit as a function of valve diameter using the following relationship for valves 10 inches in diameter or less:

$L = 7.5D$

where:

L = maximum permissible leakage rate, standard cubic feet per day. (scf/day); and

D = valve diameter (inches).

For valves greater than 10 inches, the allowable leakage limit will be 60 percent of the value obtained using the above formula. At the present time, WNP–2 has 346 valves in the group that will be assigned alternate yearly testing. The valve diameters range from 0.5 to 24 inches. Using the above criteria, the leakage limit in terms of La would vary between .001 La and .03 La. Assuming that every valve leaked at its limits, the maximum cumulative leakage for these valves would be 1.0 La. This total includes the valve leakage for valves greater than 10 inches using 60 percent of the calculated value.

5. For the Type B penetrations, the licensee proposes to set the acceptance criterion for leakage at 50 standard cubic centimeters per minute (sccm) per penetration. These Type B penetrations include electrical penetrations, drywell head, equipment hatch, inspection ports, etc., but do not include airlocks. This leakage criterion is based on past experience of the licensee.

6. During each refueling outage, the combined Type B and C leakage will be computed based on "as left" leakage upon the completion of the current leakage tests. To obtain the total leakage, the "as left" leakage values for valves not tested during the current testing schedule will be used.

7. The individual barrier leakage criteria, if not met, will result in two actions. First, the barrier will be included in the group to be tested during the following refueling outage. Second, the barrier will be considered for repair during the current outage. The decision to repair will be made on a case-by-case basis.

8. Following each operating cycle refueling outage and prior to restarts the total 'as left" Types B & C leakage rates shall not exceed 0.5 La (in lieu of the0.6 La required by Appendix J). Additionally, if at any time during an operating cycle, the "as left" leakage total following maintenance exceeds 0.5 La, all Type B & C barriers will be tested during the next shutdown for refueling.

9. For the Type B and Type C testing programs, the reporting requirements of Apendix J will be augmented to include the information associated with the unique aspects of the WNP–2 program. In particular, the report will note the acceptance leakage criteria for each barrier as well as the barriers that failed the test criteria and consequently will be tested during the following refueling outage. Also included in the report will be the list of valves/penetrations not tested during the outage but that are scheduled to be tested during the next refueling outage.

To support their program, the licensee has reviewed the test data obtained to date from the WNP–2 plant. Three previous tests have shown that 70% of the isolation valves tested in the "as found" condition have leakages well below the proposed leakage criteria. These low leakage valves have resulted in over 50% of the penetrations being placed in a low leakage category.

The staff has reviewed all licensee submittals concerning the exemption requests and the proposed nine item test program summarized above. The staff finds that the unusual circumstances of the unpredictable timing of the spring snowmelt in the Pacific Northwest and its impact on the refueling schedule for WNP–2 creates an exceptional circumstance for the Supply System that warrants additional considerations relative to the imposition of the strict requirements of Appendix J. The staff also finds that the licensee's proposal for testing, summarized above as the nine point test program in conjunction with the proposed exemptions, fully meets the intent of Appendix J. Therefore, the licensee's proposed exemptions are acceptable.

Furthermore, based on the testing program proposed by the licensee in the series of seven letters identified above and summarized by the staff as a nine-point testing program, the licensee's proposed technical specification change (January 31, 1986 letter) is acceptable.

IV

Accordingly, the Commission has determined that, pursuant to 10 CFR 50.12, this exemption is authorized by law, will not present an undue risk to the public health and safety, and is consistent with the common defense and security. The Commission further determines that special curcumstances, as provided in 10 CFR 50.12(a)(2)(iii), are present jusitifying the exemption, namely that application of the regulation in the particulary circumstances would result in undue hardship and other costs that are significantly in excess of those contemplated when the regulation was adopted and that are significantly in excess of those incurred by others similarly situated. If the plant were forced to undergo Type C testing, solely to comply with the Appendix J regulations, an undue hardship and financial burden would result that would be significantly in excess of that comtemplated when the regulation was adopted. When the regulation was adopted, it was contemplated that the testing would be accomplished during the normally anticipated and scheduled refueling outages that occur in most

plants approximately every eighteen months. Thus the cost and hardship imposed on WNP–2 by failing to grant the exemption would be considerably in excess of that incurred by others similarly situated. Therefore the Commission hereby approves the following exemption requests:

Type C testing of containment isolation valves, as required by 10 CFR Part 50, Appendix J, Section III.D.3, *Type C tests*, need not be performed during each reactor shutdown for refueling but may be performed at other convenient intervals. The interval between successive Type B or Type C tests shall not exceed 27 months.

It is further determined that the exemption does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. In light of this determination and as reflected in the Environmental Assessment and Finding of No Significant Impact prepared pursuant to 10 CFR 51.2 and 51.30 through 51.32, it is concluded the instant action is insignificant from the standpoint of environmental impact and an environmental impact statement need not be prepared.

For further details with respect to this action, see the licensee's request dated January 31, 1986, which is available for public inspection at the Commission's Public Document Room 1717 H Street, NW., Washington, DC, and at the Richland Public Library, Swift and Northgate, Richland, Washington 99352. Pursuant to 10 CFR 51.32, the Commission has determined that the granting of this Exemption will have no significant impact on the environment (52 FR 10834 dated April 3, 1987).

This exemption is effective upon issuance.

Dated at Bethesda, Maryland this 29th day of April, 1987.

For The Nuclear Regulatory Commission.

Gary M. Holahan,

Acting Director, Division of Reactor Projects—III/IV/V and Special Projects.

[FR Doc. 87–10326 Filed 5–5–87; 8:45 am]

BILLING CODE 7590–01–M

Intent to Relocate Records for the Trojan Nuclear Plant

AGENCY: Nuclear Regulatory Commission.

ACTION: Notice of intent to relocate the records for the Trojan Nuclear Plant.

SUMMARY: Notice is hereby given that the U.S. Nuclear Regulatory Commission (NRC) is moving the Local Public Document Room (LPDR) records collection for Portland General Electric Company's Trojan Nuclear Plant from the Portland Library, Portland, Oregon, to another a yet undetermined location. The Library Association of Portland has asked that the collection be relocated. The purpose of this notice is to invite public comment on possible LPDR sites.

DATE: Comment period expires June 5, 1987. Comments received after this date will be considered if it is practical to do so, but assurance of consideration cannot be given except as to comments filed on or before this date.

ADDRESSES: Written comments may be submitted to Mr. David L. Meyer, Chief, Rules and Procedures Branch, Division of Rules and Records, Office of Administration and Resources Management, U.S. Nuclear Regulatory Commission, Washington, DC 20555. Copies of comments received may be examined at the NRC Public Document Room, 1717 H Street, NW., Washington, DC.

FOR FURTHER INFORMATION CONTACT: Ms. Jona L. Souder, Chief, Local Public Document Room Branch, Division of Rules and Records, Office of Administration and Resources Management, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Telephone 301–492–7536, or Toll Free 800–638–8081.

SUPPLEMENTARY INFORMATION: Since February 1981, the Library Association of Portland, 801 S.W. Tenth Avenue, Portland, Oregon has served as the NRC Local Public Document Room repository for records relating to the Trojan Nuclear Plant. The document collection includes essentially all publicly available records considered by the NRC in the licensing and regulation of the Trojan Nuclear Plant.

Among the factors the NRC will consider in selecting a new location for the collection are:

(1) Whether the institution is an established document repository with a history of impartially serving the public located within 50 miles of the nuclear facility;

(2) The physical facilities available, including shelf space, patron workspace, and copying equipment;

(3) The willingness and ability of the library staff to maintain the LPDR collection and assist the public locate records;

(4) The nature and extent of related research resources, such as government documents;

(5) The public accessibility of the library, including parking, ground transportation, and hours of operation, particularly evening and weekend hours;

(6) The proximity (within 50 miles) of the library to the Trojan Nuclear Plant located approximately 35 miles north of the Portland, Oregon; and

(7) The proximity of the library to existing user groups of the collection, if known.

Public comments are requested on libraries in the vicinity of the Trojan Nuclear Plant that might be considered for selection as the new location for this NRC local public document room collection.

Dated at Bethesda, Maryland, this 29th day of April, 1987.

For the Nuclear Regulatory Commission.

Donnie H. Grimsley,

Director, Division of Rules and Records, Office of Administration and Resources Management.

[FR Doc. 87–10329 Filed 5–5–87; 8:45 am]

BILLING CODE 7590–01–M

[Docket No. 50–312]

Rancho Seco Nuclear Generating Station Sacramento Municipal Utility District, Receipt of Petition for Director's Decision

Notice is hereby given that, by letter dated February 25, 1987, Ms. Barbara Moller of Sacramento, California, has petitioned the Nuclear Regulatory Commission to order the Licensee at the Rancho Seco Nuclear Generating Station to show cause why it should not be prevented from restarting until a complete check of all cables is undertaken or, in the alternative, why it should not be completely shut down. Bases for the petition are (1) the official investigation concerning falsification of cable tray data, and (2) the problem-laden history of the facility.

The Petition is being treated pursuant to 10 CFR 2.206 of the Commission's regulations and, accordingly, appropriate action will be taken on the request within a reasonable time. A copy of the Petition is available for inspection in the Commission's Public Document Room, 1717 H Street, NW., Washington, DC 20555 and in the Local Public Document Room for the Rancho Seco facility located at the Sacramento City-County Library, 828 I Street, Sacramento, California 95814.

Dated at Bethesda, Maryland, this 27th day of April 1987.

For the Nuclear Regulatory Commission.

Thomas E. Murley,

Director, Office of Nuclear Reactor Regulation.

[FR Doc. 87–10327 Filed 5–5–87; 8:45 am]

BILLING CODE 7590–01–M

Low-Level Radioactive Waste Disposal Facility; Availability of Publication Concerning Environmental Protection

AGENCY: Nuclear Regulatory Commission.

SUMMARY: The Nuclear Regulatory Commission (NRC) is announcing the availability of NUREG–1300, Environmental Standard Review Plan for the Review of a License Application for a Low-Level Radioactive Waste Disposal Facility. This document provides guidance to staff in conducting the environmental review associated with a license application for a low-level radioactive waste disposal facility and also makes information about NRC's compliance with the National Environmental Policy Act of 1969 (NEPA) more readily available to the public, States and Regional Compacts, and the regulated community.

ADDRESS: Copies of NUREG–1300 may be purchased by calling the U.S. Government Printing Office at (202) 275–2060 or 275–2171 or by writing to the Superintendent of Documents, U.S. Government Printing Office, P.O. Box 37082, Washington, DC 20013–7082.

FOR FURTHER INFORMATION CONTACT: George Pangburn, Operations Branch, Division of Low-Level Waste Management and Decommissioning, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555. Telephone: (301) 427–4160.

SUPPLEMENTARY INFORMATION: Section 61.10 of Title 10, Code of Federal Regulations requires that each application for a license to dispose of low-level radioactive waste be accompanied by an environmental report (ER) prepared in accordance with Subpart A of 10 CFR Part 51. The applicant's ER serves as the basis for the NRC staff to prepare an environmental statement (ES) as required by 10 CFR Part 51, § 51.20 (b)(11). The Environmental Standard Review Plan (NUREG–1300) provides guidance to the staff in reviewing the ER, making the necessary independent analyses and evaluations and preparing the formal ES.

NRC regulations on environmental protection (10 CFR Part 51) were revised substantially in 1984 to take into account the Council on Environmental Quality's 1978 regulations implementing the National Environmental Policy Act (NEPA). The Environmental Standard Review Plan (ESRP) was prepared in accordance with the revised 10 CFR Part 51 and will help to assure that licensing decisions made by NRC conform to the requirements of NEPA. The ESRP should also enable NRC to complete the environmental component of licensing a low-level radioactive waste disposal facility within the 15-month time frame specified by the Low-Level Radioactive Waste Policy Amendments Act of 1985.

Because Regulatory Guide 4.18, "Standard Format and Content of Environmental Reports for Near-Surface Disposal of Radioactive Waste," was prepared before 10 CFR Part 51 was revised, the data and information requirements in NUREG–1300 are not necessarily consistent with the guidance contained in Regulatory Guide 4.18. The NRC staff anticipates preparation of a revised "Standard Format and Content of Environmental Reports for Near-Surface Disposal of Radioactive Waste" that will accurately reflect the ESRP requirements for data and information to be supplied in an applicant's environmental report.

In addition to the aformentioned purposes, the Environmental Standard Review Plan will help to assure quality and uniformity of staff reviews and make information about the environmental component of the licensing process more readily available and thereby improve the understanding of this process among the public, States and Regional Compacts and the regulated community.

Dated at Silver Spring, Maryland, this 30th day of April, 1987.

Paul H. Lohaus,

Acting Chief, Operations Branch, Division of Low-Level Waste Management and Decommissioning, Office of Nuclear Material Safety and Safeguards.

[FR Doc. 87–10330 Filed 5–5–87; 8:45 am]

BILLING CODE 7590–01–M

RAILROAD RETIREMENT BOARD

Agency Forms Submitted for OMB Review

AGENCY: Railroad Retirement Board.

ACTION: In accordance with the Paperwork Reduction Act of 1980 (44 U.S.C. Chapter 35), the Board has submitted the following proposal(s) for the collection of information to the Office of Management and Budget for review and approval.

Summary of Proposal(s)

(1) *Collection title:* Application and Claim for Unemployment Benefits and Unemployment Service
(2) *Form(s) submitted:* UI–1 (ES–1), UI–3
(3) *Type of request:* Extension of the expiration date of a currently approved collection without any change in the substance or in the method of collection
(4) *Frequency of use:* On occasion
(5) *Respondents:* Individuals or households
(6) *Annual responses:* 865,000
(7) *Annual reporting hours:* 72,083
(8) *Collection description:* Under section 2 of the Railroad Unemployment Insurance Act, unemployment benefits are provided for qualified railroad workers. The collection obtains information needed for determining eligibility for and amount of such benefits.

Additional Information or Comments

Copies of the proposed forms and supporting documents can be obtained from Pauline Lohens, the agency clearance officer (312–751–4692). Comments regarding the information collection should be addressed to Pauline Lohens, Railroad Retirement Board, 844 Rush Street, Chicago, Illinois 60611 and the OMB reviewer, Elaina Norden (202–395–7316), Office of Management and Budget, Room 3002, New Executive Office Building, Washington, DC 20503.

Pauline Lohens,

Director of Information and Data Management.

[FR Doc. 87–10307 Filed 5–5–87; 8:45 am]

BILLING CODE 7905–01–M

Agency Forms Submitted for OMB Review

AGENCY: Railroad Retirement Board.

ACTION: In accordance with the Paperwork Reduction Act of 1980 (44 U.S.C. Chapter 35), the Board has submitted the following proposal(s) for the collection of information to the Office of Management and Budget for review and approval.

Summary of Proposal(s)

(1) *Collection title:* Application and Claim for Sickness Insurance Benefits
(2) *Form(s) submitted:* SI–1a/1b, SI–2, SI–3, ID–11a
(3) *Type of request:* Extension of the expiration date of a currently approved collection without any change in the substance or in the method of collection
(4) *Frequency of use:* On occasion
(5) *Respondents:* Individuals or households, Businesses or other for-profit
(6) *Annual responses:* 427,300
(7) *Annual reporting hours:* 17,883
(8) *Collection description:* Under Section 2 of the Railroad Unemployment Insurance Act, sickness benefits are

provided for qualified railroad workers. The collection obtains information needed for determining eligibility for and amount of such benefits.

Additional Information or Comments

Copies of the proposed forms and supporting documents can be obtained from Pauline Lohens, the agency clearance officer (312–751–4692). Comments regarding the information collection should be addressed to Pauline Lohens, Railroad Retirement Board, 844 Rush Street, Chicago, Illinois 60611 and the OMB reviewer, Elaina Norden (202–395–7316), Office of Management and Budget, Room 3002, New Executive Office Building, Washington, DC 20503.

Pauline Lohens,

Director of Information and Data Management.

[FR Doc. 87–10308 Filed 5–5–87; 8:45 am]

BILLING CODE 7905–01–M

Agency Forms Submitted for OMB Review

AGENCY: Railroad Retirement Board.

ACTION: In accordance with the Paperwork Reduction Act of 1980 (44 U.S.C. Chapter 35), the Board has submitted the following proposal(s) for the collection of information to the Office of Management and Budget for review and approval.

Summary of Proposal(s)

(1) *Collection title:* Railroad Job Vacancies
(2) *Form(s) submitted:* N.A.
(3) *Type of request:* Extension of the expiration date of a currently approved collection without any change in the substance or in the method of collection
(4) *Frequency of use:* On occasion
(5) *Respondents:* Businesses or other for-profit, Small businesses or organizations
(6) *Annual responses:* 750
(7) *Annual reporting hours:* 125
(8) *Collection description:* Section 704(d) of the Regional Rail Reorganization Act of 1973 requires that the Board maintain a list of railroad job vacancies available with rail carriers. The collection obtains notice of the job vacancies. The information is used to find jobs for individuals separated from railroad employment.

Additional Information or Comments

Copies of the proposed forms and supporting documents may be obtained from Pauline Lohens, the agency clearance officer (312–751–4692). Comments regarding the information collection should be addressed to Pauline Lohens, Railroad Retirement Board, 844 Rush Street, Chicago, Illinois 60611 and the OMB reviewer, Elaina Norden (202–395–7316), Office of Management and Budget, Room 3002, New Executive Office Building, Washington, DC 20503.

Pauline Lohens,

Director of Information and Data Management.

[FR Doc. 87–10309 Filed 5–5–87; 8:45 am]

BILLING CODE 7905–01–M

SECURITIES AND EXCHANGE COMMISSION

Self-Regulatory Organizations; Applications for Unlisted Trading Privileges and of Opportunity for Hearing; Philadelphia Stock Exchange, Inc.

April 30, 1987.

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:

Alleghany Corporation (New) (Delaware)
Common Stock, $1.00 Par Value (File No. 7–9910)

Lucky Stores, Inc.
Common Stock, $1.25 Par Value (File No. 7–9911)

Greiner Engineering Inc. (Nevada)
Common Stock, $.50 Par Value (File No. 7–9912)

These securities are listed and registered onone or more other national securities exchange and are reported in the consolidated transaction reporting system.

Interested persons are invited to submit on or before May 21, 1987, written data, views and arguments concerning the above-referenced application. Persons desiring to make written comments should filed three copies thereof with the Secretary of the Securities and Exchange Commission, Washington, DC 20549. Following this opportunity for hearing, the Commission will approve the application 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. 87–10252 Filed 5–5–87; 8:45 am]

BILLING CODE 8010–01–M

[Release No. 34–24405; File No. SR–PSE–87–10]

Self-Regulatory Organizations; Pacific Stock Exchange, Inc.; Filing and Order Granting Accelerated Approval to Proposed Rule Change

On April 2, 1987, the Pacific Stock Exchange, Inc. ("PSE" or "Exchange") submitted to the Securities and Exchange Commission ("Commission"), pursuant to section 19(b)(1) under the Securities Exchange Act of 1934 ("Act") [1] and Rule 19b–4 thereunder,[2] a proposed rule change to extend the index option escrow receipt pilot through June 30, 1987.

The index option escrow receipt program is intended to provide a workable mechanism through which index call options can be written in a cash account.[3] The Commission approved the market index option escrow receipt subject to a one year pilot, which ended on August 19, 1986. The pilot was subsequently extended to February 20, 1987, in order to provide sufficient time for the Chicago Board Options Exchange, Inc. ("CBOE"), acting on behalf of all the options exchanges participating in the pilot program, to review the data compiled during the pilot period, and submit a report to the Commission on the operation of the pilot. This report was submitted to the Commission on February 6, 1987.

Based on the experience of the pilot, the Exchange believes that the pilot should be made a permanent program and has requested that the pilot be approved on a permanent basis. The present filing is made to continue the pilot for an interim period until the Commission acts on the PSE's proposal for permanent approval of the program.

In order to permit the Commission to conclude its evaluation of the CBOE report on the operation of the pilot to date, the Commission is extending the pilot program through June 10, 1987. The Commission notes that it appears that the pilot program has been successful in reducing the operational difficulties of

[1] 15 U.S.C. 78s(b)(1) (1982).

[2] 17 CFR 240.19b–4 (1985).

[3] *See* Securities Exchange Act Release No. 22323 (August 19, 1985), 50 FR 33439 for a description of the pilot.

banks and trust companies in preparing escrow receipts for short index options cash accounts.

The Commission finds good cause for approving the proposed rule change prior to the thirtieth day after the date of publication of the proposal in the **Federal Register** in that the pilot has operated effectively to date and has benefited many market participants.

It Is Therefore Ordered, pursuant to section 19(b)(2) of the Act,[4] that the proposed rule change is approved.

For the Commission by the Division of Market Regulation, pursuant to delegated authority.[5]

Dated: April 29, 1987.

Jonathan G. Katz,

Secretary.

FR Doc. 87-10250 Filed 5-5-87; 8:45 am]

BILLING CODE 8010-01-M

[Release No. 34-24403; File No. SR-PHLX-87-03]

Self-Regulatory Organizations; Philadelphia Stock Exchange, Inc.; Order Approving Proposed Rule Change

On February 24, 1987, the Philadelphia Stock Exchange, Inc. ("PHLX"), submitted to the Securities and Exchange Commission ("Commission"), pursuant to section 19(b)(1) under the Securities Exchange Act of 1934 ("Act")[1] and Rule 19b-4 thereunder,[2] a proposed rule change to define "delta order" as a contingency order that is dependent upon the amount an options price changes in relation to a corresponding change in price of the underlying security, and to amend a floor procedure advice to require that delta orders placed with a floor broker for the account of a registered options trader must specify the applicable delta and be good for only one trading day.

The proposed rule change was noticed in Securities Exchange Act Release No. 24195 (March 9, 1987), 52 FR 8395 (March 17, 1987). No comments were received on the proposed rule change.

The rule change is designed to facilitate transactions in options by specifying a type of order PHLX members can use to provide them with flexibility in trading. In its rule filing, the PHLX indicates that the proposed rule change also will make clear that a delta order could not be used to give a floor broker undue discretion to trade for the registered options trader. This will be accomplished by prohibiting a registered options trader from specifying a delta order good for more than one trading day. This will ensure that registered options traders do not use delta orders as a substitute for being present in the trading crowd on a continual or long term basis. The rule change will protect investors and the public interest by ensuring adequate liquidity by requiring that registered options traders remain on the floor as much as possible to trade their own accounts.

The PHLX contends that the statutory basis for the proposed rule change is section 6(b)(5) of the Act in that it will facilitate transactions in securities and protect investors and the public interest.

The Commission agrees that the proposed rule change will supply PHLX members with a type of order which will provide them with flexibility in trading, but will not grant undue discretion to floor brokers to trade for registered options traders. 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 proposed rule change is approved.

For the Commission, by the Division of Market Regulation, pursuant to delegated authority.

Dated: April 29, 1987.

Jonathan G. Katz,

Secretary.

[FR Doc. 87-10251 Filed 5-5-87; 8:45 am]

BILLING CODE 8010-01-M

SMALL BUSINESS ADMINISTRATION

[License No. 04/04-0136]

Suwannee Capital Corp.; Surrender of License

Notice is hereby given that Suwannee Capital Corporation (SCC), 3030 Poplar Avenue, Memphis, Tennessee, has surrendered its License to operate as a small business investment company under the Small Business Investment Act of 1958, as amended (Act). SCC was licensed by the Small Business Administration on July 11, 1978. Under the authority vested by the Act and pursuant to the Regulations promulgated thereunder, the surrender was accepted on April 21, 1987, and accordingly, all rights, privileges, and franchises therefrom have been terminated.

(Catalog of Federal Domestic Assistance Program No. 59.011, Small Business Investment Companies)

Dated: April 30, 1987.

Robert G. Lineberry,

Deputy Associate Administrator for Investment.

[FR Doc 87-10300 Filed 5-5-87; 8:45 am]

BILLING CODE 8025-01-M

DEPARTMENT OF TRANSPORTATION

[Docket 44843]

U.S.-Venezuela Route Proceeding; Assignment of Proceeding

This proceeding has been assigned to Administrative Law Judge William A. Kane, Jr. Future communications with respect to this proceeding should be addressed to him at U.S. Department of Transporation, Office of Hearings, M-50, Room 9400A, Nassif Building, 400 Seventh Street SW., Washington, DC 20590. Telephone: (202) 366-2142.

Dated at Washington, DC, April 30, 1987.

Elias C. Rodriguez,

Chief Administrative Law Judge.

[FR Doc. 87-10239 Filed 5-5-87; 8:45 am]

BILLING CODE 4910-62-M

Federal Aviation Administration

[Summary Notice No. PE-87-7]

Petition for Exemption; Summary of Petitions Received; Dispositions of Petitions Issued Cessna Aircraft Co., et al

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

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[4] 15 U.S.C. 78s(b)(2) (1982)

[5] 17 CFR 200.30-3(a)(12) (1985).

[1] 15 U.S.C. 78s(b)(1) (1982).

[2] 17 CFR 240.19b-4 (1985).

involved and must be received on or before May 26, 1987.

ADDRESS: Send comments on any petition in triplicate to: Federal Aviation Administration, Office of the Chief Counsel Attn: Rules Docket (AGC-204), 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-204), Room 915G, FAA Headquarters Building (FOB 10A), 800 Independence Avenue SW., Washington, DC 20591; telephone (202) 267-3132.

This notice is pubished 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 April 30, 1987.

Leonard R. Smith,

Manager, Program Manager Staff.

PETITIONS FOR EXEMPTION

Docket No.	Petitioner	Regulations affected	Description of relief sought
23771	Cessna Aircraft Co	14 CFR 91.213 and 91.31	To allow petitioner to operate its aircraft Models 550, S550, and 552 with one pilot without a second in command.
17681	Kenmore Air Harbor, Inc	14 CFR 135.203(a)	To allow petitioner to conduct operations under visual flight rules outside of controlled airspace, over water, at an altitude below 500 feet. *Granted, March 30, 1987.*
25111	Timothy O. Holcomb	14 CFR 61.39(a)(1)	To allow petitioner to be eligible for a flight test for a commercial pilot certificate and instrument rating even though more than 24 months have elapsed since he passed the required written examinations. *Denied, April 4, 1987.*
24416	Airline Flight Training, Inc	14 CFR 61.157(d)(1)	To allow trainees of petitioner, who are applicants for an airline transport pilot certificate or are applying for a type rating to be added to their pilot certificate, to substitute the practical test requirements of § 61.157(a) for those of § 61.63(d)(2) and (3) and to complete that portion of the practical test for an airline transport pilot certificate or for an additional type rating, as authorized by § 61.157(d), in a simulator. *Granted, March 31, 1987.*
25017	Systems International Airways	14 CFR 61.63 (d)(2) and (d)(3), 61.157(d)(1), and 121.407(c)(1) and Appendix A to Part 61.	To allow certain practical test maneuvers and procedures to be performed in petitioner's Lockheed Electra L-188 training device in lieu of a nonvisual simulator as stipulated in Appendix A to Part 61, and extend the expiration date of Exemption No. 4295, as amended, to December 31, 1987. *Denied, March 27, 1987.*
24446	Air Transport Association of America	14 CFR 121.485(b)	To allow members of petitioner to conduct flights of less than 12 hours duration with an airplane having an additional crew of three or more pilots and an additional flight crewmember without requiring the rest period to be twice the hours flown since the last at home rest period. *Granted, April 13, 1987.*

[FR Doc. 87-10225 Filed 5-5-87; 8:45 am]

BILLING CODE 4910-13-M

VETERANS ADMINISTRATION

Agency Form Letter 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 contains an extension and lists the following information: (1) The department or staff office issuing the form letter, (2) the title of the form letter, (3) the agency form letter number, if applicable, (4) a description of the need and its use, (5) how often the form letter must be filled out, (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 fill out the form letter, and (9) an indication of whether section 3504(h) of Pub. L. 96-511 applies.

ADDRESSES: Copies of the form letter and supporting documents may be obtained from Patti Viers, Agency Clearance Officer (732), Veterans Administration, 810 Vermont Avenue, NW., Washington, DC 20420, (202) 233-2146. Comments and questions about the items on the list should be directed to the VA's OMB Desk Office, Elaina Norden, 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 July 6, 1987.

Dated: April 27, 1987.

By direction for the Administrator.

David A. Cox,

Associate Deputy Administrator for Management.

Extension

1. Office of Information Management and Statistics.

2. Request to Correspondent for Identifying Information.

3. VA Form Letter 70-2.

4. This information is used to locate the records of an individual in response to incoming correspondence.

5. On occasion.

6. Individuals or households.

7. 50,000 responses.

8. 8,333 hours.

9. Not applicable.

[FR Doc. 87-10259 Filed 5-5-87; 8:45 am]

BILLING CODE 8320-01-M

Agency Form 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 provisoins of the Paperwork Reduction Act (44 U.S.C. Chapter 35). This document contains an extension and lists the following information: (1) The department or staff office issuing the form, (2) the title of the form, (3) the agency form number, if applicable, (4) a description of the need and its use, (5) how often the form must be filled out, (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 fill out the form, and (9) an indication of whether section 3504(h) of Pub. L. 96-511 applies.

ADDRESSES: Copies of the forms and supporting documents may be obtained from Patti Viers, Agency Clearance Office (732), Veterans Administration, 810 Vermont Avenue, NW., Washington,

DC 20420, (202) 233–2146. Comments and questions about the items on the list should be directed to the VA's OMB Desk Officer, Elaina Norden, 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 July 6, 1987.

Dated: April 27, 1987.

By direction of the Administrator.

David A. Cox,

Associate Deputy Administrator for Management.

Extension

1. Department of Veterans Benefits.
2. Health Authority Approval—Individual Water-Supply and Sewage-Disposal System.
3. VA Form 26–6395.
4. This information is necessary to determine that VA Minimum Property Requirements have been met involving individual water-supply and sewage-disposal systems prior to guaranteeing home loans, direct loans, and manufactured home loans.
5. On occasion.
6. State or local governments.
7. 15,000 responses.
8. 7,500 hours.
9. Not applicable.

[FR Doc. 87–10260 Filed 5–5–87; 8:45 am]

BILLING CODE 8320–01–M

Agency Form Under OMB Review

AGENCY: Veterans Administration.

ACTION: Notice.

The Veterans Administration 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 contains a revision and lists the following information: (1) The department or staff office issuing the form, (2) the title of the form, (3) the agency form number, if applicable, (4) a description of the need and its use, (5) how often the form must be filled out, (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 fill out the form, and (9) an indication of whether section 3504(h) of Pub. L. 96–511 applies.

ADDRESSES: Copies of the forms and supporting documents may be obtained from Patti Viers, Agency Clearance Officer (732), Veterans' Administration, 810 Vermont Avenue, NW., Washington, DC 20420, (202) 233–2146. Comments and questions about the items on the list should be directed to the VA's OMB Desk Officer, Elaina Norden, Office of Management and Budget, 726 Jackson Place, NW., Washington DC 20503, (202) 395–7316.

DATE: Comments on the information collection should be directed to the OMB Desk Officer on or before July 6, 1987.

Dated: April 27, 1987.

By direction of the Administrator.

David A. Cox,

Associate Deputy Administrator for Management.

Revision

1. Department of Veterans' Benefits.
2. Financial Statement.
3. VA Form 26–6807.
4. This information is used in the VA Home Loan Program to determine applicants' or obligors' creditworthiness.
5. On occasion.
6. Individuals or households.
7. 40,000 responses.
8. 30,000 hours.
9. Not applicable.

[FR Doc. 87–10261 Filed 5–5–87; 8:45 am]

BILLING CODE 8320–01–M

Sunshine Act Meetings

Federal Register
Vol. 52, No. 87
Wednesday, May 6, 1987

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

Notice of Change in Subject Matter of Agency Meeting

Pursuant to the provisions of subsection (e)(2) of the "Government in the Sunshine Act" (5 U.S.C. 552(e)(2)), notice is hereby given that at its open meeting held at 2:00 p.m. on Thursday, April 30, 1987, the Corporation's Board of Directors determined, on motion of Chairman L. William Seidman, seconded by Director C.C. Hope, Jr. (Appointive), concurred in by Director Robert L. Clarke (Comptroller of the Currency), that Corporation business required the withdrawal from the agenda for consideration at the meeting, on less than seven days' notice to the public, of the following matter:

Application of Barnett Bank of Pinellas County, a proposed new bank to be located at 1901 Central Avenue, St. Petersburg, Florida, for Federal deposit insurance, for consent to merge, under its charter and title, with Barnett Bank of Pinellas County, National Association, Clearwater, Florida, and for consent to establish twenty-one existing and one approved, but unopened, offices of Barnett Bank of Pinellas County, National Association as branches of Barnett Bank of Pinellas County.

The Board further determined, by the same majority vote, that no earlier notice of this change in the subject matter of the meeting was practicable.

Dated: May 1, 1987.
Federal Deposit Insurance Corporation.
Robert E. Feldman,
Assistant Executive Secretary.
[FR Doc. 87-10392 Filed 5-4-87; 3:47 pm]
BILLING CODE 6714-01-M

NATIONAL TRANSPORTATION SAFETY BOARD

TIME AND DATE: 9:30 a.m., Tuesday, May 12, 1987.

PLACE: NTSB Board Room, Eight Floor, 800 Independence Avenue, SW., Washington, DC 20594.

STATUS: Open.

MATTERS TO BE CONSIDERED:

1. *Highway Accident Report:* Intercity Tour Bus Loss of Control and Rollover into the West Walker River, Walker, California, May 30, 1986.
2. Withdrawal of Recommendation of Piper Aircraft Corporation re Incorporation of Rubber Fuel Liner on Piper Pawnee Model PA-25-150 and PA-25-253 Airplanes with Fiberglass Fule Tanks

FOR MORE INFORMATION, CONTACT: H. Ray Smith (202) 382-6525.

May 1, 1987.

[FR Doc. 87-10335 Filed 5-4-87; 8:53 am]
BILLING CODE 7533-01-M

NUCLEAR REGULATORY COMMISSION

DATE: Weeks of May 4, 11, 18, and 25, 1987.

PLACE: Commissioners' Conference Room 1717 H Street, NW., Washington, DC.

STATUS: Open and Closed.

MATTERS TO BE CONSIDERED:

Week of May 4

Tuesday, May 5

2:00 p.m.
Discussion of Management-Organization and Internal Personnel Matters (Closed—Ex. 2, 5, 6, & 7)

Thursday, May 7

2:00 p.m.
Briefing on State of the Nuclear Industry (Public Meeting)
3:30 p.m.
Affirmation/Disussion and Vote (Public Meeting) (if needed)

Week of May 11—Tentative

Wednesday, May 13

10:00 a.m
Briefing on NRC/DOE Comparability Study (Closed—Ex. 1)
2:00 p.m.
Periodic Briefing by INPO (Public Meeting)
3:00 p.m.
Affirmation/Discussion and Vote (Public Meeting) (If needed)

Week of May 18—Tentative

Thursday, May 21

3:30 p.m.
Affirmation/Disussion and Vote (Public Meeting) (if needed)

Week of May 25—Tentative

Friday, May 29

10:00 a.m.
Affirmation/Disussion and Vote (Public Meeting) (if needed)

TO VERIFY THE STATUS OF MEETINGS CALL (RECORDING): (202) 634-1498.

CONTACT PERSON FOR MORE INFORMATION: Robert McOsker (202) 634-1410.

Robert B. McOsker,
Office of the Secretary.
April 30, 1987.

[FR Doc. 87-10322 Filed 5-1-87; 4:27 pm]
BILLING CODE 7590-01-M

PACIFIC NORTHWEST ELECTRIC POWER AND CONSERVATION PLANNING COUNCIL

STATUS: Open.

TIME AND DATE: May 13-14, 1987; 9:00 a.m.

PLACE: Wenatchee Convention Center, Golden Delicious Room, 201 North Wenatchee, Wenatchee, Washington.

MATTERS TO BE CONSIDERED:

1. Staff Introduction and Panel Discussion on Mid-Columbia Fish and Wildlife Issues.
2. Staff Introduction and Discussion of Columbia/Snake River Mainstem Passage.
3. Columbia Basin Fish and Wildlife Authority Presentation on System Planning Work Plan.
4. Council Action on Comments on Bonneville Power Administration's Model Conservation Standards/Indoor Air Quality Environmental Impact Statement.
5. Staff Presentation on Notice of Meetings.
6. Council Business.
7. Public Comment.

FOR FURTHER INFORMATION CONTACT: Ms. Bess Atkins at (503) 222-5161.

Edward Sheets,
Executive Director.
[FR Doc. 87-10352 Filed 5-4-87; 11:34 am]
BILLING CODE 0000-00-M

SECURITIES AND EXCHANGE COMMISSION

AGENCY MEETING:

STATUS: Closed Meeting.

PLACE: 450 Fifth Street, NW., Washington, DC.

Notice is hereby given, pursuant to the provisions of the Government in the Sunshine Act Pub. L. 94-409, that the Securities and Exchange Commission held a closed meeting on Wednesday, April 29, 1987 at 5:35 p.m., to consider the following item.

Regulatory matter involving discussion of enforcement action.

Chairman Shad and Commissioners Cox, Peters, Grundfest and Fleischman determined that Commission business required the above change and the no earlier notice thereof was possible.

At times changes in Commission priorities require alterations in the scheduling of meeting items. For further information and to ascertain what, if any, matters have been added, deleted or postponed, please contact: David Potel at (202) 272-3195.

Jonathan Katz,
Secretary.
May 1, 1984.

[FR Doc. 87-10405 Filed 5-4-87; 3:47 pm]
BILLLING CODE 8010-01-M

Corrections

Federal Register
Vol. 52, No. 87
Wednesday, May 6, 1987

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 JUSTICE

Availability of Funding for Cooperative Agreements; Shelter Care and Other Related Services to Alien Minors

Correction

In notice document 87-9636 beginning on page 15569 in the issue of Wednesday, April 29, 1987, make the following corrections on page 15572:

1. In the second column, under the heading "K. Criteria for Evaluating Applications", below paragraph 1., insert "(15 points)".

2. In the third column, below the first paragraph, insert "(20 points)".

3. Below the last paragraph in paragraph 3., insert "(20 points)".

4. Below paragraph 4., insert "(15 points)".

5. Below paragraph 5.(b), insert "(10 points)".

6. Below paragraph 6., insert "(10 points)".

7. Below paragraph 7., insert "(10 points)".

For a Justice Department document extending the application closing date, see the Notices Section of this issue.

BILLING CODE 1505-01-D

Federal Register

Wednesday
May 6, 1987

Part II

Environmental Protection Agency

40 CFR Part 260 et al.

Burning of Hazardous Waste in Boilers and Industrial Furnaces; Proposed Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 260, 261, 264, 265, 266, 270, and 271

[FRL-3153-5]

Burning of Hazardous Waste in Boilers and Industrial Furnaces

AGENCY: Environmental Protection Agency.

ACTION: Proposed rule and request for comment.

SUMMARY: Under this proposal, the Environmental Protection Agency (EPA) would expand controls on hazardous waste combustion to regulate the burning of hazardous waste fuels in boilers and industrial furnaces. Currently, only the burning of hazardous waste in incinerators is subject to regulation although burning hazardous waste fuels in boilers and industrial furnaces can pose similar hazards to human health and the environment. Boilers and industrial furnaces have been exempt from regulation pending Agency efforts to determine whether regulations for burning in these devices should differ from those for incineration in light of the different scope of practices and the different combustion devices and wastes involved. The Agency has completed those efforts and today proposes to control emissions of toxic organic compounds, toxic metals, and hydrogen chloride from boilers and industrial furnaces burning hazardous waste. In addition, today's proposal would subject owners and operators of these devices to the general facility standards applicable to hazardous waste treatment, storage, and disposal facilities. Further, today's proposal would subject hazardous waste fuel storage units at burner facilities to Part 264 permit standards. Burner storage operations at existing facilities are generally now subject only to interim status standards under Part 265.

Finally, today's rule proposes action on two petitions. Based on a petition by Dow Chemical Corporation, the Agency is proposing to classify halogen acid furnaces as industrial furnaces under § 260.10. Based on a petition by the American Iron and Steel Institute, EPA is proposing to classify coke and coal tar fuels produced by recycling coal tar decanter sludge, EPA Hazardous Waste No. K087, as products rather than solid waste.

DATES: EPA will accept public comments on this proposed rule until July 6, 1987, except that comments on the proposal to regulate hazardous waste fuel blending tanks will be accepted until June 5, 1987.

Public hearings are scheduled as follows:

1. Chicago, May 27, 1987.
2. San Francisco, May 28, 1987.
3. Arlington, VA, June 5, 1987.

Requests to present oral testimony must be received by 10 days before each public hearing.

ADDRESSES: Comments on this proposed rule should be sent to RCRA Docket Section (WH-562), U.S. Environmental Protection Agency, 401 M Street SW., Washington, DC 20460 [Attn: Docket No. F-87-BBFP-FFFFF]. The public docket is located in Rm. S-212 and is available for viewing from 9 a.m. to 4 p.m., Monday through Friday, excluding legal holidays. The hearings will be held at the following locations:

1. Holiday Inn—O'Hare, 5440 N. River Road, Rosemont, Illinois 60018, May 27, 1987.

2. Holiday Inn—Fisherman's Wharf, 1300 Columbus Avenue, San Francisco, California 94133, May 28, 1987.

3. Sheraton-National Hotel, Columbia Pike and Washington Blvd., Arlington, VA 22204, June 5, 1987.

The hearings will begin at 9 a.m. with registration at 8:30 a.m. and will run until 4:30 p.m. unless concluded earlier. The meetings may be adjourned earlier than the scheduled time if there are no remaining comments. Anyone wishing to make a statement at the hearing should notify, in writing, Mr. William Richardson, Public Participation Office, Office of Solid Waste (WH-562), Environmental Protection Agency, 401 M Street SW., Washington, DC 20460. Persons wishing to make oral presentations must restrict them to 15 minutes and are encouraged to have written copies of their complete comments for inclusion in the official record.

FOR FURTHER INFORMATION CONTACT: RCRA HOTLINE, toll free, at (800) 424-9346 or at (202) 382-3000. Single copies of the proposed rule are available by calling the RCRA Hotline. For technical information, contact Dwight Hlustick, Waste Combustion Section, Waste Management Division, Office of Solid Waste, WH-565A, U.S. Environmental Protection Agency, 401 M Street SW., Washington, DC 20460, Telephone: (202) 382-7917.

SUPPLEMENTARY INFORMATION:

Preamble Outline

Today's preamble is organized into six major parts. Part One contains background information that summarizes major provisions of the rule. It also describes how today's rule fits into the Agency's strategy for regulating all burning of hazardous waste. Finally, this part identifies the combustion units that would be regulated—boilers and industrial furnaces—and describes the hazard that may be posed by the uncontrolled burning of hazardous waste.

Part Two discusses why the proposed controls are based on national performance standards rather than entirely on case-by-case risk assessments. This part also discusses why the rules would apply to the burning of hazardous waste in boilers or industrial furnaces irrespective of the heating value of the waste. Thus, these rules would supercede the sham recycling enforcement policy that heretofore applied the hazardous waste incinerator standards of Subpart O of Parts 264 or 265 to the burning of low heating value hazardous waste in boilers or industrial furnaces. Under today's rules, the incinerator standards of Subpart O would never apply to boilers and industrial furnaces. This part also explains that today's rules would apply to the burning of hazardous waste in an industrial furnace solely for the purpose of materials recovery, but also explains when such burning is deemed not to involve RCRA solid wastes.

Part Three discusses the proposed controls on burning. It explains why emissions of toxic organic compounds are controlled with a 99.99 percent destruction and removal efficiency (DRE) performance standard coupled with limits on flue gas carbon monoxide (CO) levels. The DRE standard would ensure destruction of organic constituents in the hazardous waste fuel and the CO limits would ensure the device continuously operates at high combustion efficiency and, thus, is not likely to emit incompletely burned organics at levels that pose significant risk. This part also discusses the proposed automatic waiver of a trial burn for boilers operated under special conditions. The special conditions were developed to ensure that the boiler continuously operates at high combustion efficiency when burning hazardous waste and, thus, achieves at least a 99.99 percent DRE for constituents in the feed, and has minimal emission of incompletely burned organic compounds. In addition, this part discusses the proposed waiver of a trial burn and the flue gas carbon monoxide limits for boilers and industrial furnaces demonstrated to burn low risk waste. The demonstration is based on projected reasonable, worst-case emission rates absent those controls, site-specific dispersion modeling, and comparison of predicted ground level concentrations of pollutants to reference levels. Part Three also discusses the basis for the proposed limits on metals and hydrogen chloride emissions, and the four-tiered approach to implement those limits: Tier I—demonstration of compliance with metals and chlorine specification levels in the hazardous waste itself, or in the hazardous waste as fuel (i.e., after blending); Tier II—demonstration that the feed rate of metals and chlorine, considering levels in the hazardous waste, other fuels, and industrial furnace feedstocks, does not exceed prescribed limits; Tier III—demonstration that prescribed emission rates are not exceeded; and Tier IV—

demonstration that reference air concentrations are not exceeded. An owner or operator would be in compliance by demonstrating conformance with any of the tiers. In addition, this part discusses the proposed exemption of small quantity onsite burners and the regulation of combustion residuals.

Part Four discusses proposed interim status standards and permit standards and procedures. In particular, this part discusses how the CO limits and metals and HCl standards would apply during interim status.

Part Five discusses subjecting existing burner storage units currently in interim status to the Part 264 permit standards at the same time the boiler or industrial furnace is permitted. On-site burners who accumulate hazardous waste for less than 90 days, however, will continue to be subject to the special requirements under § 262.34. This part also discusses a proposal to designate halogen acid furnaces as industrial furnaces and attempts to distinguish clearly between such furnaces and incinerators burning halogenated hazardous waste. In addition, this part discusses a proposal to classify coke and coal tar fuels produced by recycling coal tar decanter sludge, EPA Hazardous Waste No. KO87, as products rather than solid (and hazardous) waste because the recycling does not significantly increase the levels of toxic constituents in the materials. Further, Part Five discusses the Agency's intent to develop conforming amendments to the incinerator standards of Subpart O of Parts 264 and 265 to control metals emissions directly and to ensure that incinerators continuously operate at high combustion efficiency to help minimize emissions of incompletely burned organic compounds. Finally, this part addresses two unrelated issues: (1) A proposal to clarify that the pickle liquor listing, Hazardous Waste No. KO62, applies to pickle liquor generated by plants in the iron and steel industry, not just to plants that actually produce iron and steel: and (2) a proposal to amend an exemption provided in the November 29, 1985, burning and blending final rule for gas recovered from hazardous waste landfills to extend the exemption to include gas recovered from solid waste landfills.

Part Six discusses how the rules would operate immediately upon promulgation, even in States authorized to operate the hazardous waste program. This part also discusses the economic impacts the rule would have on the regulated community. EPA notes that any final rules would be codified differently from today's proposal. The Agency intends to codify these final rules in a new subpart of Part 266.

Part One: Background

I. Legal Authority

These regulations are proposed under the authority of Section 1006, 2002(a), 3001, 3004, 3005, and 3007 of the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act of 1976, the Quiet Communities Act of 1978, the Solid Waste Disposal Act Amendments of 1980, and the Hazardous and Solid Waste Amendments of 1984, 42 U.S.C. 6905, 6912(a), 6921, 6924, 6925, and 6927.

II. Overview of the Proposed Rule

EPA is proposing today to expand controls on burning hazardous waste to regulate burning in boilers and industrial furnaces. These proposed rules are similar to the Agency's standards for owners and operators of hazardous waste incinerators under Parts 264 and 265. Owners and operators of boilers and industrial furnaces would be subject to the general facility standards for hazardous waste treatment, storage, and disposal facilities, including requirements concerning emergency procedures, closure, and financial assurance. Permit requirements would be similar to those for incinerators[1] in that controls would limit the emission of toxic organic compounds, toxic metals, and hydrogen chloride. However, these rules would differ from the controls for incinerators in several important ways. In addition to requiring a 99.99 percent destruction and removal efficiency (DRE) of principal organic hazardous constituents (POHCs) in the hazardous waste feed, these rules would attempt to minimize the emission of incompletely burned organic compounds by limiting the flue gas concentration of carbon monoxide, thus ensuring the device operates continuously at high combustion efficiency. These rules would also provide direct control of metals emissions, and would control metals and hydrogen chloride emissions with risk-based standards. In addition, trial burns would be automatically waived for boilers meeting special operating requirements. Finally, to make the rules as cost-effective as possible, we are proposing discretionary alternative standards based on a common principle—ground level concentrations of pollutants emitted from the facility must protect public health and the environment. Thus, today's rules would have optional requirements, some of which require site specific risk assessment.

These proposed rules would apply to burning of hazardous waste in boilers and industrial furnaces irrespective of whether the waste has minimal energy value. In addition, these rules would also apply to the burning of hazardous waste in an industrial furnace solely for the purpose of materials recovery.

These rules would also apply to the burning of hazardous waste in nonindustrial as well as industrial boilers. Thus, these rules would supercede the November 29, 1985, Administrative Controls that require owners and operators of nonindustrial boilers burning hazardous waste fuel to comply with the incinerator standards of Subpart O of Parts 264 or 265.

In addition, these rules would exempt on-site burners of small quantities of hazardous waste on the basis that the extremely small quantities of hazardous waste involved are not likely to pose significant risks.

Finally, today's proposal would subject existing hazardous waste storage facilities used by burners to final permit standards. Currently, existing storage operations (in existence on May 29, 1985) at burner facilities are subject generally only to interim status storage standards. On-site burners who accumulate hazardous waste for less than 90 days, however, will continue to be subject to the special requirements under § 262.34.

III. Relationship of the Proposed Rule to Other Rules

A. May 19, 1980, Rules

The initial hazardous waste management facility standards promulgated on May 19, 1980, controlled the burning of hazardous waste in incinerators, but exempted the burning of hazardous waste for the purpose of energy recovery. EPA did not promulgate controls for the burning of hazardous waste for energy recovery in boilers and other devices at that time because the Agency had not investigated the extent of the practice, the risks that may be posed to human health or the environment, or regulatory alternatives. Since that time, EPA has been considering what controls on the burning of hazardous waste for energy recovery may be needed. The Agency accelerated those efforts when the

[1] The incinerator standards of Subpart O, 40 CFR Part 264, control emissions of organic constituents in the waste with a technology-based 99.99% destruction and removal efficiency (DRE) standard, and control particulate and hydrogen chloride emissions with technology-based emission limits.

Hazardous and Solid Waste Amendments of 1984 explicitly required the Agency to address the issue.

Although the 1980 rules exempted the burning of hazardous waste for energy recovery, the storage and transportation of certain hazardous wastes destined for energy recovery were regulated prior to recycling. The storage and transportation of hazardous wastes that were listed wastes or sludges were regulated when the wastes were burned on-site or sent directly from the generator to the burner. When these wastes were sent to an intermediate processor or blender, however, they were considered to be recycled once they were processed or blended and, thus, exempt from further regulation. Wastes that were hazardous solely because they exhibited a characteristic (and that were not a sludge) were totally exempt from regulation when destined to be burned for energy recovery.

To ensure that hazardous waste typically destined for incineration because of its low heating value was not burned in a boiler or industrial furnace, ostensibly for energy recovery but actually to avoid the cost of incineration, the Agency developed a sham recycling policy in 1983 which was of questionable effect. See 48 FR 11157 (March 16, 1983). That policy held that if a hazardous waste having less that 5,000 to 8,000 Btu/lb heating value were burned in a boiler or industrial furnace, it was not burned for its fuel value but rather to avoid the cost of incineration. As discussed in Section II of Part Two, that policy would be superceded by today's proposed rule. Hazardous waste, irrespective of its heating value, would be subject to today's proposed rule when burned in a boiler or industrial furnace.

B. January 4, 1985, Redefinition of Solid Waste

On January 4, 1985, EPA promulgated revisions to the definition of a solid waste (50 FR 665) that established, in Part 266, a Subpart D for "Hazardous Waste Burned for Energy Recovery." With one exception explained below, that subpart did not change the substantive controls established by the 1980 rules for hazardous waste fuels. The rule made it clear that listed wastes and sludges are subject to transportation and storage controls prior to burning and prior to processing or blending to produce a waste-derived fuel by a person who neither generated the waste nor burns the fuel. Thus, a generator could no longer engage in minimal or incidental processing and blending of a listed waste or sludge and claim that he produced hazardous waste-derived fuel exempt from transportation and storage controls.

C. November 29, 1985, Administrative Controls

On November 29, 1985, EPA promulgated administrative controls for marketers and burners of hazardous waste fuels. See 50 FR 49164–49211. That rule revised the controls on hazardous waste fuels substantially as follows: (1) The rule applied storage, transportation, and certain administrative (paperwork) controls to all hazardous wastes used as fuels or used to produce a fuel, and to all hazardous waste-derived fuels (i.e., wastes that were hazardous solely because they exhibited a characteristic were no longer exempt, and hazardous waste-derived fuels produced by third-party processors and blenders were no longer exempt); and (2) the rule prohibited the burning of hazardous waste fuel in nonindustrial boilers, unless the boiler complied with the standards for hazardous waste incinerators under Subpart O of Parts 264 and 265. Today's proposed rule would change the November 29 rule by establishing technical controls for burners, by allowing nonindustrial boilers to burn hazardous waste fuels under those controls, and by eliminating a paperwork requirement (one-time notice from a burner to the marketer certifying that the burner has notified EPA of his activities and will burn the hazardous waste fuel only in unrestricted boilers).

D. TSCA Waste PCB Rules

EPA controls the disposal of wastes containing PCBs (polychlorinated biphenyls) under authority of the Toxic Substances Control Act. Standards for PCB disposal are promulgated at 40 CFR Part 761 and apply to management practices including incineration and burning in boilers.

Although the Agency is in the process of integrating the TSCA PCB disposal rules with the RCRA hazardous waste rules, that effort has not been completed. Thus, today's rules do not apply to waste PCBs, with one important exception. If a waste PCB is also a RCRA hazardous waste (e.g., because it exhibits a characteristic or because it is mixed with a RCRA-listed hazardous waste), any fuel that contains or is derived from the waste would be subject to today's rule as well as the TSCA PCB rules. In practice, this means that the permitting official would apply the more stringent of the TSCA or RCRA rules.

E. Proposed Rules for Burners of Off-Specification Used Oil Fuels

The Agency will in the future be proposing management standards for owners and operators of boilers and industrial furnaces burning off-specification used oil fuels. Any metals and hydrogen chloride controls deemed necessary for off-specification used oil may be patterned after the rules proposed here. If the Agency is concerned about organic emissions from the burning of certain off-specification used oil fuels, the Agency may propose to subject some used oil fuels to the destruction and removal efficiency and carbon monoxide standards proposed here for hazardous wastes.

Today's rules would apply to used oil only if the used oil is mixed with a hazardous waste. Used oil that contains more than 1000 ppm total halogens is presumed to be mixed with hazardous waste unless the presumption is rebutted. See 50 FR 49164 (November 29, 1985).

IV. Need for Controls

Today's proposed rule would apply to boilers and industrial furnaces that burn hazardous waste.[2] EPA has defined boiler, industrial furnace, and incinerator in 40 CFR 260.10. Under those definitions, enclosed devices using controlled flame combustion are considered to be incinerators if they do not meet the definition of a boiler and if they are not designated as an industrial furnace. Incinerators are regulated under Subpart O of Parts 264 and 265. Boilers and industrial furnaces would be regulated under today's rule.

In this section, we summarize hazardous waste burning practices in boilers and industrial furnaces and describe the risks that can be posed by improper burning.

A. Boilers

EPA defines a boiler in 260.10 as an enclosed device using controlled flame combustion and having the following characteristics: (1) the combustion chamber and primary energy recovery section must be of integral design (e.g., facilities with waste heat recovery boilers attached to incinerators are not considered boilers); (2) thermal energy recovery efficiency must be at least 60 percent; and (3) at least 75 percent of the

[2] As discussed in Section II of Part Two of the text, today's rule would apply to the burning of hazardous wastes in boilers and industrial furnaces irrespective of the heating value of the hazardous waste. Thus, these rules would regulate burning in these devices for energy recovery as well as for the burning of low heating value wastes (i.e., less than 5,000 Btu/lb) for the purpose of destruction.

recovered energy must be "exported" (i.e., not used for internal uses like preheating of combustion air or fuel, or driving combustion air fans or feedwater pumps).

Today's rule would apply to all boilers burning hazardous wastes: [3] nonindustrial (residential, commercial, and institutional), industrial, and utility boilers. Currently, nonindustrial boilers are prohibited from burning hazardous wastes unless they are operated in conformance with the incinerator standards of Subpart O of Parts 264 or 265. See 50 FR 49192. EPA was concerned about the special risks posed by the uncontrolled burning of hazardous waste in nonindustrial boilers given their typical location, size, and operating practices. Given that today's proposed rule would establish standards designed to be protective when hazardous waste is burned in any boiler, the rule would eliminate the distinction between nonindustrial boilers on the one hand and industrial and utility boilers on the other. Once today's rule is promulgated (and effective), any nonindustrial boilers burning hazardous waste under Subpart O of Parts 264 or 265 would be subject to the final standards for boilers.

Based on a mail questionnaire survey,[4/5] EPA believes that approximately 900 boilers burn hazardous waste fuels. The boilers range in size from very small boilers with a heat input capacity of less than 5 million (MM) Btu/hr to huge utility-class boilers with a heat input capacity of several thousand MM Btu/hr. The hazardous wastes burned in boilers are generally organic by-products from chemical manufacturing and spent solvents either generated on-site or by a similar facility, and have heating values ranging from 8,000 to 15,000 Btu/lb, with average values of approximately 10,000 Btu/lb. Many, perhaps 25 percent, of the boilers burn very small quantities of hazardous waste—less than 50 gallons/month. Some boilers, however, burn hazardous waste as the sole fuel. Typically, hazardous waste is burned with fuel oil or natural gas and provides less than 50 percent of the boiler's fuel requirements. Less often, hazardous wastes are cofired with pulverized coal, stoker coal, or other fuels.

Based on available data and information from industry representatives, hazardous wastes burned in boilers usually have low metals and chlorine content. This is fortuitous because boilers cofiring hazardous waste with oil or gas are generally not equipped with emissions control equipment because there generally is no need to control particulate emissions from oil or gas fired boilers. To meet today's proposed controls on metals and hydrogen chloride emissions, boilers burning metals or chlorine-bearing wastes may have to cofire with oil or gas at low waste firing rates, blend the metal or chlorine-bearing wastes with other wastes or fuels, or employ emissions control devices to remove metals and hydrogen chloride from exhaust gases.

B. Industrial Furnaces

EPA defines industrial furnaces in § 260.10 as those devices that EPA has determined are enclosed devices using controlled flame combustion to recover (or produce) materials or energy as an integral component of a manufacturing process. EPA has designated 11 devices as industrial furnaces and has developed criteria and procedures for so designating additional devices. To date, the Agency has designated the following devices as industrial furnaces: cement kilns; lime kilns; aggregate kilns (including light-weight aggregate kilns and aggregate drying kilns used in the asphaltic concrete industry); phosphate kilns; coke ovens; blast furnaces; smelting, melting, and refining furnaces; titanium dioxide chloride process oxidation reactors; methane reforming furnaces; pulping liquor recovery furnaces; and combustion devices used in the recovery of sulfur values from spent sulfuric acid. In addition, EPA is proposing today to amend § 260.10 to designate halogen acid furnaces as industrial furnaces. See Section II of Part Five.

Any hazardous waste burned in these industrial furnaces would be regulated under today's rule, except those wastes exempted by § 266.30(b) (e.g., small quantity generator hazardous waste and waste excluded from regulation under § 261.4). (Furnaces which burn hazardous wastes solely for materials recovery are also regulated in today's rule. See discussion in Section II.B of Part Two for which materials would be considered to be solid and hazardous wastes when so burned.)

Based on the Westat report (see footnote 4) and information received from industry, EPA estimates that approximately 50 industrial furnaces burn 100 to 150 million gallons of hazardous waste as fuel annually. Cement and light-weight aggregate kilns appear to burn the bulk of the wastes, although sulfur recovery furnaces are believed to burn some hazardous waste as fuel. In addition, blast furnaces have burned on the order of 25 million gallons annually in the past. Finally, lime kilns have been tested to determine that they can successfully burn hazardous waste fuels.

Industrial furnaces (particularly cement kilns, light-weight aggregate kilns, and blast furnaces) typically burn blended solvents and solvent recovery distillation bottoms generated off-site. As opposed to most boilers, industrial furnaces typically act as commercial facilities, handling for a fee wastes generated by others. After blending, the hazardous waste fuel typically has a heating value of 10,000 Btu/lb or more, a chlorine content of 1 to 3 percent, and very high levels of metals. Levels of cadmium and chromium can be as high as several hundred ppm, and lead levels can range from several hundred ppm to more than 4,000 ppm. Notwithstanding the high levels of metals and chlorine in the hazardous waste fuel, industrial furnaces can generally be expected to emit low levels of metals and hydrogen chloride because the metals and chlorine are removed from the combustion gases by process reactions or by stack emissions control equipment. Industrial furnaces are generally ideally suited to burn metal and chlorine-bearing hazardous wastes (e.g., ignitable and chlorinated spent solvents and solvent recovery distillation bottoms) and are expected to be readily able to comply with the metals and hydrogen chloride emission limits proposed today.[6]

Each of the industrial furnaces known to be burning or to have been tested for burning hazardous waste fuels is described below.

1. *Cement kilns.* Cement kilns are horizontal inclined rotating cylinders, refractory lined and internally fired, to calcine a blend of 80 percent limestone and 20 percent shale to produce Portland cement.

There is a wet process and a dry process for producing cement. In the wet process, the limestone and shale are ground wet, whereas in the dry process kiln they are ground dry. Wet process kilns are longer than dry process kilns in order to facilitate water evaporation from the wet feed. Otherwise, the two processes are basically identical, with similar process chemistry and equipment.

[3] Except certain hazardous waste exempted by § 266.30(b) (50 FR 49204 (November 29, 1985)).

[4/5] WESTAT, *Final Report for the Survey of Waste As Fuel: Track II*, November, 1985.

[6] Industrial furnaces, e.g., light-weight aggregate kilns equipped with low pressure wet scrubbers may not be able to burn metal-bearing hazardous waste fuels under today's proposed rule unless air pollution control equipment is upgraded.

Kilns are operated counterflow with solids flow counter-current to combustion gases and traveling down the slight incline of the kiln (i.e., raw materials are fed into the upper end of the kiln, fuel is fired at the lower end, and the raw materials get progressively hotter as they travel the length of the kiln).

Combustion gases leaving the kiln typically contain 6–30% of the feed solids as dust, water vapor, up to 30% CO_2, 10–1000 ppm CO, 10–2000 ppm SO_2 and 100–1500 ppm NO_x. The gases are transported to pollution control equipment by an induced draft fan. Combustion in the kiln supplies heat at the rate of about 3–6 million Btu per ton of product by burning fossil fuel, primarily coal. Coal ash and fly ash are chemically similar to cement and remain with the cement product (i.e., fly ash is removed from exhaust gases as discussed below and is often returned to the kiln).

Cement kilns are major sources of particulate emissions and are regulated by EPA and the States. Kiln emissions are controlled by multistage cyclones and electrostatic precipitators (ESP) or fabric filters. Kiln dust collected from primary cyclones and ESPs are generally recycled to the kiln feed.

Cement kilns are typically controlled by controlling the fuel firing rate and combustion air to maintain temperatures between 2,250 to 2,700 °F for cementation to clinker formation. Gas residence time ranges from greater than two seconds for dry process kilns to 10 seconds for wet process kilns.

There are approximately 275 cement kilns operating in the United States today, of which on the order of 20 to 30 are burning hazardous waste fuel. Given that hazardous waste fuel is often cofired with coal at a 50 percent firing rate, and that the typical cement kiln has a total heat input requirement of 160 million Btu/hr, EPA estimates that 30 million gallons of hazardous waste are burned in cement kilns annually.

2. *Light-weight aggregate kilns.* Light-weight aggregate (LWA) describes a special use aggregate with a specific gravity much less than sand and gravel, which is used to produce insulation, and nonstructural and lightweight structural concrete. LWA is produced much like cement, but the feedstocks are special clays, pumice, scoria, shale, or slate.

The LWA kiln is configured much like a cement kiln. The raw material is crushed and introduced at the upper end of a rotary kiln. In passing through the kiln, the materials reach temperatures of 1,900 to 2,100 °F. Heat is provided by a burner at the lower kiln end where clinker is discharged. Heat requirements may range from 3 to 6 million Btu per ton of thruput. Fuels include natural gas, oil, and coal with a trend toward increasing coal use.

LWA kilns are also major sources of particulate emissions and are equipped with wet scrubbers, fabric filters, or electrostatic precipitators (ESPs). Wet scrubbers dominate the industry, with fabric filters following.

There are some 30 LWA plants in 24 States, each with two or more kilns. Approximately 25 LWA kilns are burning 30 million gallons of hazardous waste annually, usually as the sole fuel.

3. *Lime kilns.* Lime kilns calcine limestone in direct-fired furnaces that can be rotary kilns, fluidized bed kilns, vertical shaft kilns or rotary hearth kilns. Ninety percent of lime production in the U.S., however, is produced from limestone in horizontal rotary kilns similar in configuration to cement kilns. The calcination reaction is a decomposition to calcium oxide and CO_2 and occurs between 1,350 to 1,650 °F, with dolomitic limestones decomposing at the lower temperatures. Lime kilns operate at 1,800 to 2,300 °F and require a heat rate of about 7 million Btu per ton of thruput. Coal accounts for almost 70 percent of the fuel used in lime production and natural gas is used for some 23 percent of production. Oil and other fuels comprise the remaining percentage of fuel use.

Feedstocks are limestones with varying amounts of dolomite (magnesium carbonates) and other compounds similar to those used in cement manufacture. The limestones are crushed and dried before feeding. Kiln gases exit between 500 to 1,400 °F and kiln emissions are controlled with fabric filters, ESPs, Venturi scrubbers, and gravel bed filters.

Although test burns with lime kilns have demonstrated that they can effectively burn hazardous waste fuels, EPA is not aware of any lime kilns currently burning hazardous waste. EPA believes, however, that there is considerable interest within the industry and that commercial hazardous waste fuel burning operations may be initiated in the near future.

4. *Blast furnace systems.* A blast furnace is a vertical shaft furnace that uses carbon in the form of coke to reduce iron oxide ores to iron in a chemically-reducing atmosphere by the action of carbon monoxide (CO). CO is formed primarily by oxidizing carbon (i.e., coke) to CO with preheated air (blast air).

Solid raw materials (ore, coke, flux) are charged into the top of the blast furnace and preheated air is "blasted" through tuyeres near the bottom of the furnace. Frequently, hydrocarbon additives (gas, liquid, or solid) or oxygen are also injected through the tuyeres. Present practice typically includes injecting fuel oil through the tuyeres.

The gases exiting from the top of the furnace (top gas) have high CO levels. The top gas from the blast furnace is generally cleaned of particulates by cyclones and wet scrubbers and then used as fuel primarily in air preheating stoves and on-site boilers.

The stoves are vertical furnaces that preheat the blast air by indirect heating of the air conveying chambers in the stoves to approximately 1,600 °F. The stoves are equipped with burners capable of efficiently utilizing blast furnace top gas for fuel.

The boilers are conventional stationary steam raising facilities which are equipped with fuel burners that are also capable of efficiently utilizing blast furnace top gas for fuel.

The top gas is also typically used as fuel in coke ovens, reheat furnaces, and internal combustion engines. Some of the top gas is also wasted by flaring. EPA has received data on 18 blast furnace system facilities operated by seven companies that show that the mean top gas utilization at these facilities is as follows:

Blast Furnace Top Gas Utilization as Fuel

	Percent
Stoves	41.33
Boilers	52.20
Coke Ovens	2.03
Reheat Furnaces	1.16
I/C Engines	.025
Venting or Flaring	3.03

Source: Letter from Robert L. Champbell, Campbell & Pryor Assoc. inc., to Robert Holloway, EPA, June 2, 1986.

Until recently, hazardous waste was blended with fuel oil in about a 50/50 blend and used as a fuel injectant by the LTV Steel Company. Before the company stopped accepting hazardous waste fuels in the spring of 1986, approximately 25 million gallons of hazardous wastes were burned annually in five blast furnaces.[7] Although EPA is not aware of blast furnace systems burning hazardous waste fuels at this time, the Agency believes that blast furnace systems can comply with the requirements proposed today, and, thus, safely burn hazardous waste fuels.[8]

[7] EPA understands that the LTV Steel Company chose not to comply with the hazardous waste fuel storage standards that became effective on May 29, 1986, and thus terminated their hazardous waste fuel activities.

[8] Radian Corporation, *Destruction and Removal of POHCs in Iron Making Blast Furnaces*, December 31, 1985.

5. *Sulfur recovery furnaces.* Sulfur recovery furnaces are used by sulfuric acid plants to process spent (used) sulfuric acid and other sulfur bearing wastes. The spent acid is contaminated with water, organics, inorganics, and other materials from prior acid use.

In the sulfur recovery furnace, spent acid, elemental sulfur, hydrogen sulfide, and other sulfur-bearing wastes are thermally decomposed at elevated temperatures into sulfur dioxide (SO_2), carbon monoxide (CO), carbon dioxide (CO_2), and water vapor. SO_2 concentrations are generally up to 14 volume percent and temperatures are usually controlled to 2,000 °F in order to reduce formation and emissions of nitrogen oxides.

The furnace is generally a horizontal, cylindrical, refractory-lined chamber and the feed sulfur, spent acid and/or other sulfur-bearing wastes are sprayed into the furnace where they are contacted with dried combustion air. Waste feed rates are controlled to achieve 8 to 14 percent SO_2 in furnace exhaust gases. After cleaning, exhaust gases are passed through converted catalyst beds to recover the sulfur.

When large quantities of spent acid comprise the feedstock, the reaction with oxygen in air is endothermic and supplementary fuel firing is required. A conventional fuel burner system is generally installed and combustion control is typically based on reaction temperature and excess oxygen. This conventional burner system may be used for firing combustible hazardous wastes.

Sulfur recovery plants use emission control devices to clean the gas stream prior to entering the converted catalyst beds to remove particulates, metals, and hydrogen chloride (HC1) to avoid contaminating or plugging the catalyst beds. Downstream of the converter beds, the exit gases are controlled to limit emissions of sulfur dioxide (SO_2) and acid mist. Preconverter controls can be cyclones, scrubbers, electrostatic precipitators, or gas dryers. Post-converter controls can be: (1) For SO_2 control, alkali absorption systems, sodium sulfate to bisulfate scrubbers, and ammonia scrubbers; and (2) for acid mist control, electrostatic precipitators, packed bed scrubbers, and molecular sieves.

C. Risks Posed by Improper Burning

The burning of hazardous waste in boilers and industrial furnaces can pose the same risks as burning in incinerators. Emissions of incompletely burned toxic organic constituents in the waste, emissions of toxic metal constituents in the waste, and emissions of hydrochloric acid (HC1) resulting from burning highly-chlorinated wastes can pose significant risk to human health. As discussed in Part Three of this preamble, emissions of toxic organic compounds from poorly-operated boilers and industrial furnaces could result in an increased lifetime cancer risk of 10^{-4} (i.e., 1 in 10,000) to persons exposed to the maximum annual average ground level concentration. Similarly, emissions of toxic metals from devices burning metal bearing wastes without adequate emission controls could pose risks at those levels. Finally, emissions of hydrogen chloride (HC1) from devices burning highly-chlorinated wastes without adequate emission controls (or without sufficient removal by industrial furnace process chemistry) could result in ground level concentrations of HC1 that exceed reference air concentrations considered to be acceptable targets for regulatory purposes.

Part Two: Major Regulatory Approaches

We discuss in this part of the preamble why we are proposing to base permit requirements on national performance standards with provision for risk-based variances, rather than solely on site-specific risk assessments for every facility. We also explain here why the proposed rules would apply to the burning of hazardous waste in boilers and industrial furnaces irrespective of the heating value of the waste. This is significant because current regulations subject the burning of low heating value waste in boilers and industrial furnaces to the standards for incinerators in Subpart O of Parts 264 or 265.

I. Use of National Performance Standards with Risk-Based Options Versus Case-by-Case Risk Assessment for All Facilities

Under today's proposed rule, permit requirements for owners and operators of boilers and industrial furnaces would be established as necessary to ensure conformance with national performance standards for the destruction of organic compounds and emissions of metals and hydrogen chloride. The Agency has used risk assessments of reasonable, worst-case scenarios to develop the standards and to show that the standards are protective (i.e., the metals and HC1 standards are entirely risk-based and the technology-based DRE standard for organic compounds has been shown by risk assessment to be protective in most cases).

National performance standards, by design, can be conservative and may tend to overregulate many facilities. Today's rule would also provide a waiver of the national performance standard based on site-specific risk assessments. The destruction and removal efficiency (DRE) and flue gas carbon monoxide standards that control emissions of organic compounds would be waived for low risk waste. Under the waiver, the owner or operator must demonstrate by projecting emission rates and dispersion modeling that, absent controls, emissions of organic compounds would not result in ground level concentrations that pose adverse health effects. The metals and hydrogen chloride (HC1) emissions limits would also be waived for owners and operators that demonstrate by dispersion modeling that reference air concentrations for the metals and HC1 would not be exceeded. Finally, today's proposal uses risk assessment to show that the exemption of small quantity burners is not likely to pose significant risk.

Although the Agency proposes to rely heavily on the use of risk assessment to develop, support, and implement the rule, we are not proposing to use case-by-case risk assessments as the sole basis to determine Permit requirements for every facility for the reasons discussed below.

National performance standards that are based on the risk posed by reasonable, worst-case scenarios (or that are technology-based and shown to be protective under reasonable, worst-case scenarios) allow permitting officials and the applicant to avoid the cost and time required for emissions testing requisite for a site-specific risk assessment. The national performance standards proposed today ensure the cost-effective control of emissions by: (1) Waiving emissions testing for organic compounds, metals, and HC1 for boilers operating under special operating requirements; (2) waiving emissions testing for metals and HC1 for boilers and industrial furnaces burning waste with metals and chlorine levels within specification levels or waste with metals and chlorine levels such that the mass feed rate of metals and chlorine from all fuels and industrial furnace feedstocks will not result in an exceedance of the metals or HC1 emission limits, assuming all metals are emitted (e.g., no emission controls) and all chlorine is emitted as HC1; and (3) exempting burners of small quantities of waste from virtually all requirements. We estimate that small quantity burners burn less than one percent of the hazardous waste being burned as fuel.

Using national performance standards is also more cost-effective than site-specific risk assessments to establish

permit conditions even when emissions testing is required because it avoids the added time and cost of dispersion modeling and estimating health effects from resulting exposures.

Not only do national performance standards allow for cost-effective variances and exemptions, but a site-specific, risk-based permitting approach to control organic emissions would be impractical given the state-of-the-art of human health and environmental effects assessments and sampling and analysis techniques for organic compounds that may be emitted. We simply do not have at this time the tools to characterize fully the emissions from combustion sources (e.g., incinerators, boilers, automobiles) and the health and environmental effects data to assess their impacts. For example, we are able today to estimate human health effects for only about 150 of over 400 compounds identified in Appendix VIII as toxic constituents of hazardous waste. Further, the types of organic compounds that can be synthesized in an improperly-operated combustion device are not limited to the Appendix VIII list. Thus, the technology-based DRE standard is needed to ensure a high level of destruction that reasonable, worst-case risk assessment has shown to be protective.[9]

In addition, even if the analytical and health effects tools were in place to consider the impacts of emissions from all organic compounds, a risk assessment that supported the use of a lower DRE (e.g., 99.9% or 99.95%) may not be of value to the regulated community. The 99.99% DRE standard and the carbon monoxide limits proposed today can be met readily. These standards would ensure that boilers and industrial furnaces operate at high combustion efficiency, which is an efficient, economical operating practice for most devices.[10] Further, to ensure that a sufficient degree of destruction is achieved above the bare-bones 99% DRE, which is assumed for the low risk waste exemption (see Section III.D of Part Three), continuous monitoring of carbon monoxide and oxygen would probably be required (albeit the limits would not be as stringent as those proposed today). Thus, even if a risk assessment approach were workable for all organic wastes, it may not prove to be cost-effective to the regulated community.

It should be noted that the proposed site-specific, risk-based waivers for metals, HC1, and low risk waste are based on an emissions dispersion analysis under several conservative assumptions. The analysis does not consider issues such as the following that would result in a less conservative analysis: (1) Current and future population exposure; (2) less than lifetime exposure to carcinogens; (3) whether the site of maximum ground level concentration is habitable; (4) total cancer incidents resulting from exposure; and (5) microenvironmental or multimedia exposure (e.g. outdoor versus indoor air). Addressing these complex issues in the context of public hearings would be difficult, expensive, and time-consuming. Accordingly, the "risk analyses" and the risk-based standards described in today's proposed rule are based on the following conservative assumptions: (1) The point of maximum annual average ground level concentration of an emission is used to access potential health impact, irrespective of whether a person resides at that point of maximum exposure today; (2) a 70 year lifetime exposure to that maximum concentration[11]; and (3) indoor air contains the equivalent concentrations of pollutants as outdoor air.

II. Regulation of Burning for Either Energy Recovery or Destruction

Today's proposed rules would regulate the burning of hazardous waste in boilers and industrial furnaces irrespective of the heating value of the hazardous waste. This proposed rule would, therefore, supersede the Agency's current policy of regulating the burning of low heating value wastes in these devices as incineration, subject to the applicable hazardous waste incinerator standards of Subpart O of Parts 264 or 265.

As discussed in Section III of Part One, EPA's May 19, 1980, rules regulate the incineration of hazardous waste but exempt the burning of hazardous waste for energy recovery. To ensure that hazardous waste typically destined for incineration because of its low heating value is not burned in a boiler or industrial furnace, ostensibly for energy recovery but actually to avoid the cost of incineration, the Agency developed a sham recycling policy. The policy was published in the March 16, 1983, **Federal Register** and states that EPA considers any hazardous waste that has less than 5,000 to 8,000 Btu/lb heating value, as generated, to have minimal heating value relative to commercial fuels. Thus, when such low heating value waste is burned in any enclosed device using controlled flame combustion—including boilers and industrial furnaces—it is considered to be incinerated and the device is subject to regulation under the incinerator standards of Subpart O of Parts 264 or 265. This is the case irrespective of whether the low heating value waste is mixed with higher heating value waste or virgin fuels such that the mixture has substantial heating value (i.e., greater than 5,000 to 8,000 Btu/lb).

Now that EPA is prepared to propose controls for boilers and industrial furnaces burning hazardous waste, we believe these proposed controls should apply irrespective of the purpose of such burning. Normally, the purpose for which a material is burned makes no difference in environmental effect. Accordingly, today's proposed rules are designed to be protective irrespective of the heating value of the hazardous waste.

III. Regulation of Burning Solely for Materials Recovery in an Industrial Furnace

Today's rule also proposes to regulate hazardous waste burned in industrial furnaces for the sole purpose of material recovery (i.e., reclamation).[12] This requires the Agency to define more precisely the circumstances when secondary materials reclaimed in industrial furnaces (i.e., burned in industrial furnaces for the sole purpose of material recovery) are solid and hazardous wastes.

Under current regulations, hazardous spent materials, listed sludges, and listed by-products are hazardous wastes when reclaimed. See § 261.2(c)(3). As EPA has explained in a number of **Federal Register** notices, however, these materials may *cease* being solid wastes at the point of burning for material recovery in industrial furnaces depending on the type of secondary material involved. See 50 FR 630–1

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[9] We note that the proposed waiver of the DRE standard (and CO limits) for low risk waste is only applicable to wastes containing Appendix VIII constituents for which the Agency has established reference air concentrations (for threshold compounds) or unit risk estimates (for carcinogens). Further, the waiver provision requires a conservative estimate of health effects resulting from emissions of products of incomplete combustion (PICs).

[10] Those few boilers already operating with sophisticated combustion controls may have to operate at lower boiler (i.e., thermal) efficiency to operate at the higher combustion efficiency required by the proposed carbon monoxide limits. Fuel cost for these boilers may increase somewhat because of these regulations.

[11] Except that the 3-minute maximum average ground level concentration is used to access health effects from exposure to HC1.

[12] EPA has explained (50 FR 49167) that a hazardous waste is subject to regulation when burned in an industrial furnace for both energy recovery and some other purpose, e.g., for materials recovery. The issue here is that EPA is proposing to regulate burning *solely* for materials recovery.

(January 4, 1985) and 50 FR 49167 (November 29, 1985). The reason for this distinction is that regulation of the act of burning in an industrial furnace could lead, in some cases, to an impermissible intrusion into the production process and so be beyond EPA's authority under RCRA. *Id.*

To date, EPA has indicated that burning for material recovery of secondary materials is "indigenous" to the process in which the industrial furnace is used and is beyond the Agency's RCRA jurisdiction. Burning of "non indigenous" wastes remains within RCRA authority. *Id.*

EPA has suggested that indigenous secondary materials are those generated by the process in which the industrial furnace is normally used, and also might include secondary materials containing the same types and concentrations of Appendix VIII constituents as the raw materials normally burned in the industrial furnace. *Id.* EPA is proposing in today's rules that only materials generated by a process *using the same type of industrial furnace* as that in which burning occurs will be considered to be indigenous, and so are outside the Agency's authority when burned (subject to one exception for secondary materials burned in secondary smelting furnaces discussed below). Thus, by way of example, if a primary lead smelter were to burn a listed waste generated by another smelting process (for example, primary zinc), the material would be considered to be indigenous to smelting furnaces and hence not a solid waste at the point of burning.

EPA is proposing this approach for several reasons. First, deferring regulation could create a regulatory loophole whereby clearly nonindigenous wastes are burned outside the RCRA framework. Examples are listed electroplating wastes being burned in smelting furnaces. These electroplating wastes come from processes unrelated to smelting, and may contain different types of hazardous constituents (for example, cyanides and hexavalent chromium) or the same constituents at higher concentrations than those normally found in virgin materials normally burned in the smelting furnace (and so in many cases would not be addressed or contemplated in Clean Air Act regulations applicable to those furnaces).

Second, establishing rules relating to RCRA jurisdiction (i.e., defining "solid waste") has proven to be a difficult task. Therefore, where possible, EPA will attempt to indicate jurisdictional limits unambiguously. EPA believes that limiting jurisdiction over this type of burning to wastes generated by different types of furnaces is a clear test. These wastes will all be manifested to the burning site, and so either the origin of the waste will be known from the manifest description, or at least the manifest will state who the generator of the waste is, and hence allow easy identification of the origin of the waste. A more sophisticated test, such as requiring comparison of Appendix VIII constituents in customary virgin materials and in the waste to be burned, appears to the Agency to be overly cumbersome to administer. (As stated below, however, the EPA is specifically soliciting comment on this alternative.)

Finally, EPA believes that the types of wastes that are nonindigenous under this approach are those most likely to pose environmental threats by virtue of being different from the type of material normally burned in the industrial furnace. The electroplating wastes mentioned above are an example. For the same reason, these wastes are the ones most likely to be unrelated to materials normally burned, and so the least likely to raise jurisdictional issues relating to interference with normal production.

As noted earlier, a further requirement of the jurisdictional test is needed for secondary smelting furnaces. These industrial furnaces burn not only waste generated by other industrial furnaces, but other types of wastes such as scrap metal or battery plates as well. These materials are indigenous to secondary smelting processes: they are in fact the principal feed material to secondary smelting processes. The proposed rule consequently indicates that secondary smelting furnaces burn indigenous materials not only when they burn materials generated by smelting furnaces, but also when they burn scrap metal and (for secondary lead smelters) battery plates.

EPA anticipates the impact of this proposal to be minimal. This is because the Agency is aware of very few types of industrial furnaces that burn non-indigenous hazardous wastes exclusively for material recovery. For example, kilns normally burn hazardous wastes for a dual purpose, as do coke ovens and blast furnaces. In fact, the only type of furnaces we have identified that engage in exclusive reclamation of non-indigenous wastes are smelting furnaces burning electroplating wastes, a situation seemingly deserving of regulatory control. However, the Agency explicitly solicits comment on whether there are other operations that involve burning of hazardous waste solely for material recovery in an industrial furnace—including information on the types and numbers of facilities, quantities and types of wastes burned, and combustion and emission control practices.

The Agency also solicits comment on alternative jurisdictional approaches here. One alternative is to state that materials are indigenous only if generated by the same type of process as that in which the industrial furnace is used (rather than the same type of furnace). For example, a primary lead smelter burning secondary materials from primary lead smelting would not be considered to be burning wastes: a primary smelter burning secondary materials from primary zinc production could be considered to be burning wastes. A second alternative would involve comparing concentrations of metal to be recovered and of Appendix VIII constituents in the virgin material feed and the secondary material feed to an industrial furnace. We request commenters addressing these alternatives to present data showing these types of comparisons. Another possibility is to combine inquiry into the waste with a test based on whether the material being burned is being bought or if the furnace operator is paid to burn it.

The following examples illustrate how today's proposal would operate. (The examples assume that wastes from primary smelting can be Subtitle C hazardous wastes.)

1. A primary lead smelter receives an unlisted by-product from primary zinc production which it smelts to recover contained metal values.

The by-product is not a solid waste either before or during burning. Unlisted by-products are not solid wastes when reclaimed.

2. A primary lead smelter burns a metal bearing hazardous solvent as a partial energy source.

The solvent is a hazardous waste and the burning is within the Agency's jurisdiction. This situation involves burning wastes as fuel, not for exclusive material recovery. Industrial furnaces burning hazardous wastes solely or partially for energy recovery are within the Agency's RCRA jurisdiction. 50 FR at 49171 (November 29, 1985).

3. An incinerator (i.e., an enclosed device using controlled flame combustion that is not a boiler and is not designated as an industrial furnace in § 260.10) burns an unlisted hazardous by-product to recover contained metals.

The by-product is a hazardous waste and the incinerator is subject to the existing regulatory standards in subpart O of Parts 264 and 265. Incinerators are always deemed to incinerate and not to recycle. 50 FR 625/3 (January 4, 1985):

§§ 261.2(b)(2), 264.340(a)(1), and 265.340(a)(1).

4. A primary lead smelter receives a listed by-product from a different primary lead smelter and resmelts it.

The listed by-product ceases to be a waste when it is burned, but is a hazardous waste up until that point. Thus, it must be manifested to the smelter and must be stored in accordance with RCRA standards (including permit standards). The resmelting activity is beyond the Agency's RCRA jurisdiction. Since the material, when burned, is not a hazardous waste, the derived-from rule (§ 261.3(c)(2)(i)) would not apply to the residue from burning. 50 FR 49167 n.4 (November 29, 1985).

5. A primary lead smelter receives a listed waste from a nonsmelting process for metals recovery and resmelts it.

The material is a hazardous waste throughout burning as well as before burning. The burning consequently is controlled by today's proposed rules.

6. A primary lead smelter receives a hazardous waste from another smelting process which it burns in order to destroy contained contaminants.

The material being burned is a hazardous waste and the burning is regulated as incineration under subpart O because the waste is being burned in order to destroy it. §§ 264.340(a)(2), 265.340(a)(2).

7. A primary lead smelter generates an emission control dust which it resmelts.

The emission control dust is not a solid waste because such continuous in-house activities are defined as closed loop reclamation and are excluded from the regulatory definition of solid waste. § 261.2(e)(1)(iii).

Part Three: Discussion of Proposed Controls

1. Overview

Today's proposed rule would establish national performance standards to control stack emissions of organic compounds, metals, and hydrogen chloride (HCl) from boilers and industrial furnaces burning hazardous waste. The rule would also apply to these facilities the general standards applicable to all hazardous waste treatment, storage, and disposal facilities (e.g., closure requirements, financial requirements, preparedness and prevention requirements).

Emissions of organic compounds would be controlled by a percent reduction standard for organic constituents in the waste. A destruction and removal efficiency (DRE) for principal organic hazardous constituents (POHCs) of 99.99% would be required for all wastes except that a 99.9999% DRE would be required for dioxin-containing listed hazardous wastes.[13] Organic emissions would also be controlled by limiting flue gas carbon monoxide levels to levels indicative of high combustion efficiency to ensure hazardous waste is not burned during upset conditions. Although the DRE performance standard is a percent reduction standard and does not directly limit the mass emission rate of unburned constituents—the emission rate increases as the feed rate increases— a risk-assessment of reasonable, worst-case scenarios shows that the standard would be protective in virtually all of the scenarios of which EPA is aware.[14]

The trial burn to demonstrate destruction and removal efficiency (DRE) would be waived for boilers operating under special operating requirements designed to ensure that the boiler achieves a minimum DRE of 99.99%.[15] In addition, both the trial burn and the carbon monoxide flue gas limits would be waived for low risk waste. Under this waiver, the applicant must demonstrate that, absent these controls, emissions from the facility would not pose significant risk to public health.

Emissions of the metals arsenic, cadmium, chromium, and lead and of hydrogen chloride (HCl) would be controlled by a risk-based, four-tiered standard. Tiers I–III are national standards back-calculated from reference air concentrations (RACs) using dispersion modeling of reasonable, worst-case facilities. (We have developed hypothetical model boilers and industrial furnaces of each type known or thought likely to burn hazardous waste and conducted dispersion modeling of scenarios considered to be reasonable worst-case relative to ambient air impacts.) Tier I is a hazardous waste specification for metals and chlorine levels. The concentration limits apply to the waste either before or after blending with other wastes or fuels (i.e., the limits can be met by blending). The limits are conservatively established assuming the device burns the hazardous waste (or blended waste) as the sole fuel, and that all metals in the waste are emitted and that all chlorine is emitted as HCl. The Tier II standards limit the total feed rates of metals and chlorine to the device, considering metals and chlorine levels and feed rates of the hazardous waste, other fuel, and industrial furnace feedstock. Thus, the Tier II standards allow a waste exceeding the Tier I metals or chlorine limits to be cofired with relatively clean fuels provided that total metals or chlorine emissions do not exceed the Tier III risk-based emission limits. Like the Tier I limits, the Tier II limits assume that all metals and chlorine are emitted (i.e., no credit is provided for emissions control equipment). The Tier III standards are emission limits for metals and HCl for which conformance is demonstrated by emissions testing. Tier IV allows emissions exceeding the Tier III limits based on site-specific dispersion modeling that demonstrates that emissions from the facility will not result in exceedances of reference air concentrations (RACs) established for lead and HCl, or an aggregate incremental risk to the maximum exposed individual (MEI) of 10^{-5} (i.e., 1 in 100,000) for the carcinogenic metals arsenic, cadmium, and chromium.

Finally, boilers and industrial furnaces burning small quantities of waste relative to the fuel requirements of the device would be exempt from virtually all requirements given that the risk posed by such burning would be insignificant.

II. Overview of EPA's Risk Assessment

The Agency has used risk assessment to: (1) Show that, absent controls, emissions of organic compounds, certain metals, and hydrogen chloride (HCl) can pose serious health effects; (2) show that the 99.99% destruction or removal efficiency (DRE) standard would be protective in virtually all scenarios of which the Agency is aware; and (3) establish risk-based emission limits for metals and HCl. The risk assessment methodology is discussed in detail in the background document supporting this proposed rule—*Background Information Document for the Development of Regulations to Control the Burning of Hazardous Waste in Boilers and Industrial Furnaces, Volume III: Risk Assessment,* Engineering-Sciences, February 1987.[16] The methodology is summarized below for the convenience of the reader.

The general approach involved identifying a reasonable, worst-case facility with respect to potential ambient air impacts for a boiler and each type of

[13] The following wastes are listed in 40 CRF 261.31 because they contain chlorinated dioxins and furans: EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027.

[14] EPA will provide guidance to the permit writter to identify situations where the national performance standards may not be fully protective.

[15] Boilers burning dioxin-containing listed wastes are not eligible for the trial burn waiver.

[16] The background document is available from the National Technical Information Service, Springfield, VA. Order No. PB 87 173845.

industrial furnace known or believed likely to burn hazardous waste (e.g., cement kiln, light-weight aggregate kiln, blast furnace). The identified facilities are considered to produce reasonable, worst-case ground level concentrations of pollutants when burning hazardous waste. To show that, absent regulatory controls, serious health effects could be posed by burning hazardous waste and to show that a 99.99% DRE standard is protective, we estimated emissions from the reasonable, worst-case facilities and used dispersion modeling [17] to predict ground level concentrations. For threshold (noncarcinogenic) compounds, we then compared predicted ground level concentrations to reference air concentrations (RACs). For carcinogenic compounds, we estimated the aggregate risk to a person residing for a lifetime at the point of maximum annual average ground level concentration. To develop emission limits for lead and HCl, we back- calculated from the RACs using the dispersion factors (i.e., ug/m^3 per g/s emissions) for the reasonable, worst-case facilities. Emission limits for the carcinogenic metals arsenic, cadmium, and chromium are established by an equation that relates the emission of each metal to the emission corresponding to an incremental risk of 10^{-5}. The emission corresponding to an incremental risk of 10^{-5} is established by back- calculating from the risk-specific dose (RSD) at a 10^{-5} risk level for each metal using the dispersion factors for the reasonable, worst-case facilities. The equation sums the ratios for all three metals and requires that the sum not exceed 1.0.

We describe below how we identified reasonable, worst-case facilities, how we developed the RACs, how we are addressing the risk posed by carcinogens, and the assumptions used in the risk assessment.

A. Identification of Reasonable, Worst-Case Facilities

In developing reasonable, worst-case facilities, we considered: (1) Actual boilers according to information obtained from our mail survey; (2) eight hypothetical model boilers ranging in size from 0.4 MM Btu/hr to 400 MM Btu/hr; (3) hypothetical model industrial furnaces for each type of furnace known or considered most likely to burn hazardous waste; (4) the impact of flat versus complex terrain on ambient ground level concentrations [18]; and (5) the impact of tip downwash for devices with short stacks (e.g., small boilers, asphalt plants, sulfur recovery plants).

1. *Flat terrain modeling.* To identify reasonable, worst-case facilities of each type being considered in flat terrain we identified the boiler site representing the 95th percentile worst meteorological situation with respect to potential ambient air impacts. This site was identified assuming that a given stack with fixed release properties (i.e., factors that affect effective stack height such as stack height and stack gas flow rate and temperature) was located at each of the 114 facility sites identified by the mail questionnaire survey. Each site was then modeled using ISCLT and the site having the 95th percentile worst dispersion factor (ug/m^3 round level concentration per 1 g/s emission rate) was selected as the reasonable, worst-case site.

The reasonable, worst-case facility of each type under consideration was then identified by: (1) for boilers, modeling the actual boiler and the model boiler with the greatest potential for adverse ambient impacts (considering capacity and stack height) at the reasonable, worst-case site (using ISCLT) and identifying which boiler had the greatest potential adverse impact on ground level concentrations of pollutants; and (2) for industrial furnaces, locating each model furnace at the reasonable, worst-case site. Devices with short stacks where tip downwash could cause high ground level concentrations close to the stack were modeled assuming that a relatively large building was located adjacent to the stack.

Devices that had approximately the same potential ambient air impacts were then grouped together in categories. One set of categories is based on maximum annual average concentrations, and another set is based on maximum 3-minute concentrations (for HCl). The Tier I–III metals and HCl standards discussed below were then established for each category. The device type within each category that posed the greatest potential adverse air impacts was used to establish the limits for that category.

2. *Complex terrain modeling.* Of the 114 sites identified in the mail questionnaire survey, we determined that 68 were located in areas where the surrounding terrain within 20 kilometers of the stack exceeded the stack height, and were, therefore, considered to be in complex terrain. (Ground level concentrations can be much higher in complex terrain than in flat terrain because receptors can be elevated by the terrain to levels closer to the centerline of the stack emissions plume.) Thus, standards for facilities in complex terrain were developed to address the hazard posed to receptors elevated by terrain.

To identify reasonable, worst-case facilities in complex terrain, we ranked the 114 boiler facilities by potential to cause high ground level concentrations (irrespective of topography or meteorological conditions) by using an index that considered facility capacity (MM Btu/hr heat input) and stack height. We then identified the seven boiler sites with the greatest potential for high ambient concentrations that were also located in complex terrain (i.e., terrain within 20 kilometers of the stack exceeded the stack height). At each of these seven sites, we used the LONGZ and SHORTZ models to predict maximum annual average and maximum 3-minute concentrations to model: (1) The actual boiler located at the site; (2) the model boiler with the greatest potential for adverse ambient impacts (considering capacity and stack height); and (3) each model furnace.

The reasonable, worst-case facility for each type of device was then identified as the site associated with the highest ground level concentrations.

As with the flat terrain analysis, devices having approximately the same potential ambient air impacts were grouped together in categories. One set of categories was developed for maximum annual average concentrations and another set for maximum 3-minute concentrations. Tier I–III standards were developed for each category and the device within each

[17] The ISCLT (Industrial Source Complex, Long Term) model was used to predict maximum annual average ground level concentrations for flat terrain. The ISCST model was used to predict maximum 3-minute concentrations for HCl in flat terrain. In addition, the OAQPS Guideline Models LONGZ and SHORTZ were used for complex modeling for the selected worst-case sites in complex terrain to predict maximum annual average and maximum 3-minute concentrations. Maximum quarterly average concentrations for lead were computed from the maximum annual average concentrations by multiplying by a factor of 1.6, which represents a typical ratio of maximum quarterly to maximum annual average concentrations.

[18] We note that we have established the Tier I–III standards for metals and HCl for two topographic regimes: flat and complex terrain. EPA has defined an intermediate terrain, however, that is noncomplex and nonflat (i.e., rolling). EPA has recommended dispersion medels to address such terrain. Unless the plume from a source drops to ground level a short distance from the stack because of, for example, tip downwash, maximum ground level concentrations would be expected to increase as a given source were moved from flat terrain to nonflat, noncomplex terrain and, finally, to complex terrain. Given that the flat terrain standards proposed today may not be protective for nonflat, noncomplex terrain (and that flat terrain standards would apply to facilities not located in complex terrain), EPA is considering developing standards for the final rule for the third type of terrain: nonflat, noncomplex. EPA specifically requests comments on this issue.

category that posed the greatest potential adverse air impacts was used to establish the limits for that category.

We estimate that approximately 15–20 percent of the facilities burning hazardous wastes are located in terrain which will require that the facilities meet the complex terrain limits.

B. Reference Air Concentrations for Systemic Toxicants

For toxic substances not known to display carcinogenic properties, there appears to be an identifiable exposure threshold below which adverse health effects usually do not occur. Noncarcinogenic effects are manifested when these pollutants are present in concentrations great enough to overcome the homeostatic, compensating, and adaptive mechanisms of the organism. Thus, protection against the adverse health effects of a toxicant is likely to be achieved by preventing exposure levels from exceeding the threshold dose, or the "reference air concentration."

Reference air concentrations (RACs) have been derived from oral RfDs for those threshold compounds listed in Appendix VIII of 40 CFR Part 261 for which the Agency has adequate health effects data (see Appendix A of this preamble). These oral-based RACs are subject to change, and RACs for additional compounds are likely to be developed in the near future given that the Agency has recently established an internal workgroup (the Inhalation RfD Workgroup) to develop inhalation reference doses for use in Agency programs. That workgroup is expected to develop a methodology and inhalation references doses for a number of chemicals by late 1987. In the interest of time, the Agency has decided to propose the oral-based RACs for purposes of today's rule rather than to wait until the internal workgroup completes its efforts.

The Agency's reasoning for proposing RAC's derived from oral RfDs is as follows:

1. EPA has developed verified RfDs and is committed to establishing RfDs for all constituents of Agency interest. The verification process is conducted by an EPA workgroup, and the conclusions and reasoning for these decisions are publicly available.

2. The verification process assures that the critical study is of appropriate length and quality to derive a health limit for long-term, life-term protection.

3. RfDs are based on the best available information that meet minimum scientific criteria and may come from experimental animal studies or human studies.

4. RfDs are designed to give long-term protection for all members of the population, including persons uniquely at risk, such as pregnant women, growing children, and older men and women.

5. RfDs are designated by the Agency as being of high, medium, or low confidence depending on the quality of the information and the amount of the supporting data. The criteria for the confidence rating is discussed in the RfD decision.

The Agency used the following strategy to derive the inhalation exposure limits proposed today:

1. Where a verified oral RfD has been based on an inhalation study, the inhalation exposure limit will be calculated directly from the study.

2. Where a verified oral RfD has been based on an oral study, we will use a conversion factor of 1 for route-to-route extrapolation in deriving an inhalation limit.

3. Where there exists appropriate EPA health documents, such as the Health Effects Assessments (HEAs) and the Health Effects and Environmental Profiles (HEEPs), containing relevant inhalation toxicity data, the data will be used in deriving an inhalation exposure limit. Other agency health documents (e.g., NIOSH's criteria documents) will also be considered.

4. If RfDs or other toxicity data from agency health documents are not available, then other sources of toxicity information will be considered. The calculation will be in accordance with the RfD methodology.

The Agency recognizes the limitations of route-to-route conversions used to derive the RACs and is in the process of examining confounding factors affecting the conversion such as: (a) the appropriateness of extrapolating when a portal of entry is the critical target organ; (b) first pass effects; and (c) effect of route upon dosimetry. The Agency, through its Inhalation RfD Workgroup, is developing reference dose values for inhalation exposure, and many are expected to be available this year. The Agency will use the available inhalation RfDs when this rule is promulgated. If, however, the workgroup develops inhalation reference doses prior to promulgation of today's rule that are substantially different from the RAC's proposed today and if the revised inhalation reference dose could be expected to have a significant adverse impact on the regulated community, the Agency will take public comment on the revised RACs after notice in the **Federal Register.**

As previously stated, the RACs are derived from oral Reference Doses (RfDs) for the compounds. An oral RfD is an estimate of a daily exposure (via ingestion) for the human population that is likely to be without an appreciable risk of deleterious effects even if exposure occurs daily during a lifetime.[19] The RfD for a specific chemical is calculated by dividing the experimentally-determined no-observed-adverse-effect-level by the appropriate uncertainty factor(s).

The Agency is proposing to use the following equation to convert oral RFDs to RACs:

$$\text{RAC (mg/m}^3\text{)} = \frac{\text{RfD (mg/kg-bw/day)} \times \text{body weight} \times \text{correction factor} \times \text{apportionment factor}}{\text{m}^3 \text{ air breathed/day}}$$

where:

- RfD is the oral reference dose
- Body weight is assumed to be 70 kg for an adult male
- Volume of air breathed by an adult male is assumed to be 20 m^3/day
- Correction factor for route-to-route extrapolation (going from the oral route to the inhalation route) is 1.0
- Factor to apportion the RfD to the intake resulting from direct inhalation of the compound emitted from the source is 0.25 (i.e., an individual is assumed to be exposed to 75% of the RfD from the combination of other sources).

In today's proposed rule, the RACs are used to determine if adverse health effects are likely to result from exposure to stack emissions by comparing maximum annual average ground level concentrations of a pollutant to the pollutant's RAC. If the RAC is not exceeded, adverse health effects are not anticipated. The Agency, however, is also concerned about the impacts of short-term (less than 24-hour) exposures. The ground level concentration of an emitted pollutant can be an order of magnitude greater during a 1-minute or 15-minute period of exposure than the maximum annual average exposure. This is because, during the annual exposure, the periods of exposure to high concentrations are balanced by periods of exposure to low concentrations as wind speed and direction varies. Thus, maximum annual average concentrations are always

[19] Current scientific understanding, however, does not consider this demarcation to be rigid. For brief periods and for small excursions above the RfD, adverse effects are unlikely in most of the population. On the other hand, several circumstances can be cited in which particularly sensitive members of the population suffer adverse responses at levels well below the RfD. See 51 FR 1627 (January 14, 1986).

much lower than short-term exposure concentrations. On the other hand, the short-term exposure RAC is also generally much higher than the life-time exposure RAC. Nonetheless, in some cases, short-term exposure may pose a greater health threat than annual exposure. Unfortunately, the use of RfDs limits the development of short-term acute exposure limits since no acceptable methodology exists for the derivation of less than life-time exposures from RfDs.[20] However, despite this limitation, we are proposing a short-term (i.e., 3-minute) RAC for HCl of 150 mg/m^3 based on limited data documenting a no-observed-effect-level in animals exposed to HC1 via inhalation.[21] We do anticipate, however, that short-term RACs for other compounds will be developed by the Agency.

C. Risk From Carcinogens

EPA policy suggests that no threshold dose can be demonstrated experimentally for carcinogens. This leads to the assumption that an exposure theoretically would represent some finite level of risk for carcinogens. EPA's Carcinogen Assessment Group (CAG) has estimated the carcinogenic potency for humans exposed to low dose levels of carcinogens (both known and suspected human carcinogens). The potency factors have been used to estimate the unit risk of carcinogenic constituents on Appendix VIII. The unit risk is the incremental risk to an individual exposed for a life-time to ambient air containing one microgram of the compound per cubic meter of air. We have used the available unit risk values to calculate risk-specific doses (RSDs) for an incremental risk of 10^{-5} (i.e., 1 in 100,000). See Appendix B of this preamble.

For purposes of this regulation, the Agency is proposing that an incremental lifetime risk to the most exposed individual (MEI) of 1×10^{-5} (1 in 100,000) is a reasonable risk. Accordingly, the risk based standards proposed today ensure that the incremental risk from direct inhalation of carcinogenic stack emissions does not exceed 1×10^{-5}. The risks from the individual carcinogens are summed to develop an aggregate MEI risk. Thus, the aggregate risk to the MEI is calculated by predicting the maximum annual average ground level concentration for each carcinogenic emission, calculating the ratio of that concentration to the RSD (See Appendix B), and summing the ratios for all carcinogenic compounds. The sum cannot exceed 1 in order for the risk not to exceed 1×10^{-5}.[22]

We are proposing that a 1×10^{-5} lifetime incremental risk level is reasonable for this regulation because the MEI risk posed by coal and oil-fired boilers is generally in the range of 1×10^{-5}.[23]

The Agency specifically requests comment on whether aggregate population risk or cancer incidence (i.e., cancer incidents/year) should also be considered in developing the national emission limits and in the site-specific risk assessments under the various waivers proposed. Thus, both the risk to the MEI and increased cancer incidence could be considered. This approach could be more conservative than considering only MEI risk because, even if the "acceptable" MEI risk level were not exceeded, large population centers may be exposed to emissions such that the increased cancer incidence could be significant. An incremental cancer incidence in the range of 0.1 to 0.5 cancers per year could be considered significant. Based on public comment and further thought on how to implement this dual approach (i.e., considering both MEI risk and cancer incidence), the final rule could incorporate both approaches. Alternatively, EPA may provide guidance to the permit writer on when and how to consider cancer incidence on a case-by-case basis under authority of Section 3005(c) of HSWA.

D. Assumptions Used in the Risk Assessment

A number of assumptions, some conservative and others nonconservative, have been used in the risk assessment to simplify the analysis or to address issues where definitive data do not exist.

Conservative assumptions include the following:

- Individuals reside at the point of maximum annual average and maximum short-term ground level concentration (for HCl). Further, the risk estimates for carcinogens assume the individual resides at the point of maximum annual average concentration for a 70 year lifetime.
- Indoor air contains the same levels of pollutants as outdoor air.
- For noncarcinogenic health determinations, background exposure already amounts to 75% of the RfD. This includes other routes of exposure including ingestion and dermal. Thus, the boiler or industrial furnace is only allowed to contribute 25% of the RfD via direct inhalation. The only exception is lead where the allowed contribution is 10% of the NAAQS. We are allowing a lower contribution for lead because ambient lead levels in urban areas already represent a substantial portion (e.g., one third or more) of the lead NAAQS. In addition, the Agency is particularly concerned about the health risks from lead in light of health effects data available since the NAAQS was established. The Agency is currently reviewing the lead NAAQS to determine if it should be lowered.

Note.—We have not attempted to quantify indirect exposure through the food chain, ingestion of water contaminated by deposition, and dermal exposure because the methodology has not yet been developed and approved for use in assessing risk from combustion sources. We note, however, that allowing the source to contribute only 25% of the RfD accounts for indirect exposure by assuming a person is exposed to 75% of the RfD from other sources and other exposure pathways. (The Agency has developed such a methodology for application to waste combustion sources and the Agency's Science Advisory Board has reviewed this methodology. Assuming Agency-wide procedures are developed, a more detailed analysis may be applied to boilers and furnaces burning hazardous wastes.)

- Risks are considered both for pollutants that are known human carcinogens and those that are known animal carcinogens and therefore, are suspected human carcinogens.

Nonconservative assumptions include the following:

[20] Memo from Clara Chow thru Reva Rubenstein, Characterization and Assessment Division, EPA to Robert Holloway, Waste Management Division, EPA, entitled "Use of RfDs Versus TLVs for Health Criteria," January 13, 1987.

[21] Memo from Characterization and Assessment Division to Waste Management Division, October 2, 1986, interpreting results from Kirsch, V.H.; Drabke P. (1982), *Assessing the Biological Effects of Hydrogen Chloride*. Z. Gesamte Hyg. Ihre. Grenzgeb. 28:107–109.

[22] We note that the ground level concentrations of interest are the *off-site* concentrations. The risk posed by emissions on-site are more appropriately addressed as an occupational hazard by the Occupational Safety and Health Administration. Thus the Tier IV and low risk waste risk assessments are based on off-site ambient concentrations. EPA specifically requests comments, however, on whether on-site concentrations should be considered for facilities where people reside on-site (e.g., military bases, colleges and universities). (The Tier 1–III standards are conservatively based on dispersion modeling that did not consider whether the maximum concentrations were located on-site or off-site.) We note further that the MEI concentration used for this regulation is more correctly the potential MEI concentration in that it represents the maximum annual average ground level concentration irrespective of whether a person actually resides at that location.

[23] Office of Air Quality Planning and Standards, EPA, *Coal and Oil Combustion Study. Summary and Results*, September 1986 Draft Report.

• Although emissions are complex mixtures, additive effects of threshold compounds and interactive effects of threshold or carcinogenic compounds have not been considered given the lack of information.

Note.—Additive effects of carcinogenic compounds are considered by summing the risks for all carcinogens to estimate the aggregate risk to the most exposed individual (MEI).

• Ecological effects (i.e., effects on plants and animals) have not been considered given the lack of information. Adverse effects on plants and animals may occur at doses lower than the levels that cause adverse effects in humans. (The Agency is also developing procedures and requesting Science Advisory Board review to consider ecological effects resulting from emissions from waste combustion facilities.)

III. Proposed Controls for Emissions of Toxic Organic Compounds

A. Hazard Posed by Combustion of Toxic Organic Compounds

The burning of hazardous waste containing toxic organic compounds (i.e., organic compounds listed in Appendix VIII of 40 CFR Part 261) under poor combustion conditions can result in substantial emissions of the original compounds which were not burned and compounds that result from the partial but incomplete combustion of constituents in the waste. The quantity of toxic organic compounds emitted depends on the concentration of the compounds in the waste, the waste firing rate (i.e., the percentage of total boiler or industrial furnace fuel provided by the hazardous waste), and the combustion conditions under which the waste is burned. The risk posed by the emissions depends on the toxicity of the compounds emitted, and the ambient levels to which persons are exposed. Hypothetical risk assessments show that under poor combustion conditions that achieve only 99 percent or 99.9 percent destruction efficiency of organic compounds, risks to the maximum exposed individual from unburned carcinogenic organics found in hazardous waste can result in increased lifetime cancer risks of 10^{-4}.[24]

[24] Engineering-Science, *Background Document for the Development of Regulations To Control the Burning of Hazardous Waste in Boilers and Industrial Furnaces*, Volume III, February 1987.

B. Basis for the DRE and CO Performance Standards for Toxic Organic Compounds

The Agency is proposing to control the emission of toxic organic compounds from boilers and industrial furnaces burning hazardous waste with two performance standards. A 99.99 percent destruction and removal efficiency (DRE) standard for principal organic hazardous constituents (POHCs) in the waste feed would ensure that constituents in the waste would not be emitted at levels that could pose significant risk in virtually all scenarios of which the Agency is aware.[25] In addition, flue gas carbon monoxide (CO) levels would be limited to ensure the device operates continuously at high combustion efficiency. Thus, when burning hazardous waste, these devices cannot operate under upset conditions, which could lead to significant emissions of products of incomplete combustion (PICs), typically evidenced by smoke emissions. The basis for these standards is discussed below.

1. *Results of Emissions Testing.* The Agency conducted field tests on 11 full-scale industrial boilers and 12 industrial furnaces. The test results indicate that:

• Boilers and industrial furnaces can be operated to achieve 99.99 percent DRE of POHCs considered difficult to destroy— carbon tetrachloride, chlorobenzene, trichloroethylene, and tetrachloroethylene.

• Boilers cofiring hazardous waste fuels with fossil fuels where the hazardous waste provides less than 50 percent of the boiler's fuel requirements can achieve 99.99 percent DRE of POHCs under a wide range of operating conditions (e.g., load changes, waste feed rate changes, excess air rate changes).

• When boilers and industrial furnaces are operated at high combustion efficiency, as evidenced by flue gas carbon monoxide (CO) levels of less than 100 ppm, DREs exceed 99.99 percent. Although the tests showed this relationship between CO and DRE, there was no direct correlation between CO (an indicator of combustion efficiency) and DRE. Devices clearly operating under poor combustion conditions, as evidenced, for example, by smoke emissions, still achieved 99.99 percent DRE. It appears that POHCs are immediately destroyed in the flame zone.

• Emissions of products of incomplete combustion (PICs) (i.e., quantitated Appendix VIII pollutants that are not POHCs) generally ranged from 0.5 to 5 times POHC emission rates.

• Emissions of PICs appeared generally to increase as combustion efficiency decreased as evidenced by increased flue gas CO levels.

• Emission of total unburned hydrocarbons (i.e., quantified Appendix VIII pollutants as well as unburned POHCs and other unburned organic compounds) clearly increase as combustion efficiency decreases as evidenced by an increase in flue gas CO levels.

2. *Overview of test program.* The boiler testing program had two primary purposes: (1) To determine if boilers operated under steady-state conditions to achieve maximum combustion efficiency could achieve 99.99 percent destruction and removal efficiency (DRE) of principal organic hazardous constituents (POHCs) in the waste: and (2) to determine how changes in operating conditions (e.g., waste firing rates, boiler load, excess flue gas oxygen levels) would affect the boiler's ability to achieve 99.99 percent DRE of POHCs—so-called nonsteady-state testing.

To meet the first objective (steady-state testing), EPA tested ten boilers that represented a wide variety of boiler types and sizes and that burned a variety of hazardous wastes and auxiliary fuels. The boilers ranged in type and size from a small 8 million Btu/hr fire tube boiler to a 250 million Btu/hr water tube boiler. The hazardous wastes burned ranged from methanol and toluene wastes with a 18,500 Btu/lb heating value similar to that of No. 6 fuel oil (and which was spiked with chlorinated organics for test purposes) to a methyl acetate waste with a heating value of less than half that of No. 6 fuel oil (and which also was spiked with chlorinated organics for test purposes). Waste firing rates ranged from 100 percent of the boiler's fuel requirements (for a waste having a heating value of 9,000 Btu/lb and containing 43 percent chlorine, by weight) to less than 10 percent of the boiler's fuel requirements on a heat input basis. Boiler auxiliary fuels (if any) were natural gas, No. 6 fuel oil, pulverized coal, and waste wood.

EPA conducted nonsteady-state testing on three boilers, one of which was also tested under steady-state conditions. One boiler was a 140 million Btu/hr capacity water tube boiler that could cofire hazardous waste with either natural gas or No. 6 fuel oil. This boiler was cofired with a methyl methacrylate distillation bottom with a heating value of about 11,500 Btu/lb that was spiked with carbon tetrachloride and

[25] Except that a 99.9999% DRE would be required for dioxin-containing listed waste.

monochlorobenzene in concentrations ranging from 0.4 to 4.5 percent. The second boiler was a 450 million Btu/hr capacity water tube boiler also designed to cofire hazardous waste with natural gas. This boiler typically operated at a capacity of 250 million Btu/hr and was cofired with liquid organic heavy ends from a butanol/propanol production unit. The waste had a heating value of about 12,800 Btu/lb and was spiked with up to 16 percent carbon tetrachloride, monochlorobenzene, and trichlorobenzene. The third boiler was a 170 million Btu/hr capacity water tube, stoker fired boiler designed to handle an aqueous sludge for disposal (i.e., incineration or destruction). The aqueous sludge had virtually no heating value and was fired with pressure-atomized guns into the combustion zone just above the coal grate at rates of 12 to 20% of the volume of total boiler feed (i.e., sludge plus coal fuel). The sludge was spiked with 5 to 10% trichloroethylene or trichlorobenzene as tracer compounds to determine destruction and removal efficiencies.

More than 100 individual stack emission tests were conducted to determine the effect on DRE and emissions of products of incomplete combustion (PICs) of: (1) Burning hazardous waste under conditions of high and low boiler loads, high and low excess air rates, high and low waste firing rates (up to about 50 percent of the boiler's fuel requirements), and during soot blowing: (2) burning hazardous waste while boiler load, excess air rates, and waste firing rates were changed; and (3) start-up of waste firing operations.

The following industrial furnaces were tested: five cement production kilns, both dry and wet process types: two asphalt aggregate kilns: two light-weight aggregate production kilns, a lime production kiln; and a pig iron blast furnace. The results of these tests should be indicative of the ability of industrial furnaces to burn hazardous wastes efficiently.[26] The hazardous wastes burned in these industrial furnaces during the tests ranged from used oil spiked with several thousand ppm of chlorinated solvents to hazardous waste mixtures containing halogenated and nonhalogenated solvent recovery distillation bottoms and spent solvents from manufacturing processes (e.g., paint manufacturing) where chlorine levels ranged from 1 to 5 percent. The heating value of the waste fuels ranged from 10,000 to 18,000 Btu/lb and the hazardous waste firing rate ranged from 100 percent for the asphalt aggregate kilns, light-weight aggregate kilns, and lime kiln to about 5 percent of the heat input to the blast furnace.

EPA did not conduct nonsteady-state testing of industrial furnaces to determine the range of operating conditions under which they could be expected to achieve 99.99 percent DRE. Given that there are five different categories of industrial furnaces that are burning (or have burned) hazardous waste and that some categories have substantially different types of devices (e.g., wet versus dry process cement kilns, drum mix versus batch mix asphalt operations), EPA believes that the cost of nonsteady-state testing for each type of industrial furnace would be prohibitive. Moreover, the primary purpose for the boiler nonsteady-state testing was to determine if operating conditions could be specified such that the device could be assumed to be achieving 99.99 percent DRE without the need for a trial burn to demonstrate DRE. Based on the boiler testing, EPA is proposing an automatic waiver of the trial burn for owners and operators who operate the boiler under special operating requirements. The basis for that approach is discussed in Section III.C below. EPA believes that this approach may allow many of the 900 boilers burning hazardous waste to avoid the expense of conducting trial burns. Given that EPA believes that there may be only about 50 industrial furnaces burning hazardous waste and given the cost of testing five to seven or more industrial furnaces operated under nonsteady-state conditions, EPA does not believe that such a testing program for industrial furnaces would be cost-effective. Thus, as discussed below, EPA is proposing that owners and operators of all industrial furnaces, as well as those boilers not operated under the proposed special conditions, conduct trial burns to demonstrate conformance with the DRE standard.

3. *Interpretation of test results.* The boilers tested under nonsteady-state conditions achieved 99.99 percent DRE of POHCs under nearly all operating conditions tested. It would not be appropriate, however, to assume that any boiler burning any hazardous waste fuel under any waste firing and boiler operating conditions will achieve 99.99 percent DRE. Although the nonsteady-state tests varied a number of parameters over a wide range, some parameters could not be tested at the three test sites and other parameters could not be tested over their full range. As examples, hazardous waste was not fired with nonfossil fuels like waste wood, the maximum waste firing rate tested was 56 percent on a heat input basis, the boilers were not operated at loads below about 25 percent, and excess oxygen levels in the flue gas did not exceed 10 percent. Parameters such as these can affect boiler combustion efficiency and, thus, destruction of toxic organic constituents in the hazardous waste and emissions of incompletely burned organics. (See discussion below.) Although most of the appropriate parameters were tested at the "extremes" during one or more of the 11 steady-state tests discussed above, the boilers were operated during these tests under constant conditions in an attempt to achieve peak combustion efficiency. Thus, we do not know how narrow the envelope of operating conditions may be to ensure peak combustion efficiency and 99.99 percent DRE for a boiler already operating at the "extremes" (e.g., burning hazardous waste with a heating value of 1,000–8,000 Btu/lb as primary fuel; burning 100 percent hazardous waste with a heating value of less than 9,000 Btu/lb; or operating at a very low load).

4. *Basis for the DRE standard.* EPA is proposing a 99.99 percent DRE performance standard for POHCs [27] because it is protective, it can be readily achieved by boilers and industrial furnaces as discussed above, and it would ensure that the Agency's controls are consistent for all combustion devices—boilers, industrial furnaces, and incinerators— that pose similar risks.

Hypothetical risk assessments have shown that a 99.99 percent DRE standard for POHCs is protective in virtually every scenario of which the

[26] The only other industrial furnaces known to burn hazardous waste as fuel (or to have been tested at full scale) are sulfur recovery furnaces and halogen acid furnaces. Although EPA has not conducted emissions testing of a sulfur recovery furnace and has tested only one type of halogen acid furnace (a hydrogen chloride production furnace), the Agency believes such furnaces should be able to comply with the standards proposed today and, thus, could safely burn hazardous waste. The Agency, however, specifically requests information on sulfur recovery furnaces, halogen acid furnaces, and other industrial furnaces that burn hazardous waste, including the types and quantities of wastes burned. The Agency also requests comments on whether the proposed standards would be protective for industrial furnaces not explicitly identified in proposed §§ 266.34–4 (b) and (c).

[27] Except that, as required for incinerators, a 99.99 percent DRE would be required for the dioxin-containing wastes: EPA Hazardous Wastes F020, F021, F022, F023, F026, and F027. See § 264.343(a)(2).

Agency is aware.[28] Increased lifetime cancer risks to the maximum exposed individual would generally be 10 or less. Threshold (i.e., noncarcinogenic) organic compounds as well would not be expected in hazardous waste burned in these devices at levels that could pose a health hazard under the 99.99 percent DRE standard.

It should be noted, however, that the DRE standard does not directly control the mass emission rate (e.g., pounds per hour) of unburned POHC. Although there could be hypothetical situations where risks from POHCs could be significant under a 99.99 percent DRE standard (e.g., boilers or industrial furnaces located in urban areas burning high volumes of waste with high concentrations of highly potent carcinogenic organics), the Agency is not aware of any such situations. (See Section I of Part Two of this preamble.) If, however, during the permit process, it appears that high risk scenarios exist, permit officials can use the omnibus provision of Section 3005(c) of HSWA to develop permit requirements, as necessary, to protect human health and the environment (e.g., by requiring a 99.9999 percent DRE, by limiting the feed rate of particularly toxic compounds, or by setting a mass emission rate).

EPA specifically requests comments on using surrogate compounds in lieu of POHCs (actual constituents in the waste) to demonstrate DRE during a trial burn. To be useful as universal surrogates, such compounds must be more difficult to destroy than any principal organic constituent in the waste. Thus, the surrogates should have a low heat of combustion (e.g., carbon tetrachloride), the conventional index for predicting incinerability. In addition, in light of work conducted by the University of Dayton Research Institute,[29] the surrogates should also have a high gas phase thermal stability under low oxygen conditions (e.g., monochlorobenzene, trichloroethylene). Further, the surrogates need not be limited to toxic compounds listing in Appendix VIII of Part 261. Other compounds, notably SF_6, appear to have very high thermal stability and may be useful as a universal surrogate.[30] To be conservative, it appears appropriate to select several compounds as surrogates—one or two compounds that have low heat of combustion, and one or two compounds that have high thermal stability. Such compounds could be used as a universal mixture of surrogates, or "POHC soup". EPA specifically requests comments on this approach to simplify and standardize DRE testing.

5. *Basis for the CO standard.* EPA is proposing to limit flue gas carbon monoxide (CO) levels to ensure that boilers and industrial furnaces are operated at high combustion efficiency when burning hazardous waste. Thus, emissions of incompletely burned organic compounds are expected to be minimized to levels that would not pose significant risk.

a. *PIC Emissions.* EPA evaluated emissions of products of incomplete combustion (PICs) by quantifying emissions of priority pollutants that were not constituents in the waste (and evaluated as POHCs). PIC emission rates varied from about 0.1 to over 100 times POHC emission rates, but generally ranged from 0.5 to 5 times POHC emission rates. Semivolatile PIC emissions were nearly always insignificant compared to the levels of volatile PICs. Thus, large molecular weight (semivolatile) compounds apparently were not being synthesized. (We note, however, that laboratory studies have shown that single chlorinated organic compounds can produce several chlorinated PICs. These PICs were not limited to simple fragments of the parent POHC but included higher order chlorinated organics.)

Typical chlorinated PICs found during the full scale boiler testing included chloroform, trichloroethane, tetrachloroethylene, dichloromethane, chloromethane, and carbon tetrachloride. In addition, two nonchlorinated PICs were nearly always found—benzene and toluene.

EPA also evaluated dioxin emissions from boilers cofired with hazardous waste fuel. Emission of chlorinated dioxins and chlorinated furans, their tetra, penta, hexa, hepta and octa homologs, as well as the highly toxic isomer, 2,3,7,8-TCDD were quantified during steady-state testing of five boilers.[31] Four of the boilers were oil, gas, or pulverized coal boilers typical of those that burn hazardous waste fuels. These boilers ranged in capacity from 100 to 340 MM Btu/hr and fired hazardous waste generally at rates of 20 to 47 percent of total heat input. Emissions of total PCDD (polychlorinated dibenzo-p-dioxins) ranged from less than 0.08 to 1.1 nanograms/cubic meter of flue gas (0.0048—0.066 ppt) [32] and emissions of total PCDF (polychlorinated dibenzofuran) ranged from 0.14 to 5.5 nanograms/cubic meter (0.0084–0.33 ppt). The highly toxic isomer, 2,3,7,8-TCDD, was found in the emission from only one boiler and at a level equal to the detection limit of 0.002 nanograms/cubic meter.

The fifth test boiler was a 100 MM Btu/hr wood-fired stoker boiler. The boiler cofired creosote sludge at a 40 percent heat input firing rate with wood chips, bark, and sawdust. As is typical of batch-feed wood-fired stokers, large and frequent fluctuations in excess air and carbon monoxide emissions were indicative of erratic combustion conditions. Emissions of total PCDD were 76 nanograms/cubic meter of flue gas (4.56 ppt). PCDF emissions were not determined. Emissions of 2,3,7,8-TCDD were not detected at a detection limit of 0.002 nanograms/cubic meter (0.00014 ppt).

We note that there is a substantial degree of uncertainty associated with quantifying the emission of unburned organics. The test results can over or underestimate the emission of unburned organics attributed to burning hazardous waste fuels. Hazardous wastes were cofired with fossil fuels during most of the test burns. Any fossil fuel PIC was included as a PIC generated by the hazardous waste. Fossil fuel combustion is known typically to generate the PICs benzene and toluene and, if the fossil fuel contains chlorine (e.g., coal), many of the hazardous waste chlorinated PICs listed above could also be generated by the fossil fuel. In addition, some of the organic compounds identified during EPA's testing as PICs may, in fact, result from contamination from sampling train absorbent, laboratory solvents, or from such sources as freon leaks from a refrigerator used to store samples prior to analysis.

PIC emissions could also be underestimated because only those organic compounds listed as toxic constituents of hazardous waste in Appendix VIII of Part 261 were quantified and designated as PICs. Although GC/MS analysis was used to

[28] Engineering Science, *Background Information Document for the Development of Regulations to Control the Burning of Hazardous Waste in Boilers and Industrial Furances.* Volume III, January 1987.

[29] Dr. Barry Dellinger, Michael D. Graham, and Debra A. Tiney, University of Dayton, Research Institute, "Predicting Emissions from the Thermal Processing of Hazardous Wastes", *Hazardous Waste and Hazardous Materials,* Volume 3, Number 3, 1986.

[30] Dr. Philip H. Taylor and Dr. John Chadbourne, "SF_6 as a Surrogate for Measuring Hazardous Waste Incinerator Performance", submitted for publication to Journal of Air Pollution Control Association, March 1987.

[31] Acurex Corporation, *Dioxin Emissions from Industrial Boilers Burning Hazardous Materials,* April 1985.

[32] ppt: parts per trillion.

quantify about 100 of these compounds, many other unburned organic compounds were undoubtedly emitted. Some of these compounds are undoubtedly toxic even though they are not listed in Appendix VIII.

Although additional research is needed to understand combustion reactions where organic constituents in hazardous waste are first "destroyed" and where intermediate products of combustion are formed until ultimately, and ideally, all hydrocarbons are converted to carbon dioxide and water, the available data lead the Agency to conclude: (1) the risk posed by PIC emissions is probably not significant when combustion devices achieve 99.99 percent DRE of POHCs even though they may operate at less than maximum combustion efficiency; and (2) nonetheless, given the uncertainties as to the types and quantities of PICs that may be emitted when a combustion device is not operated at high combustion efficiency, it is prudent to provide controls that ensure that boilers and industrial furnaces are operated at high combustion efficiency when burning hazardous waste. Both of these points are discussed below.

b. *Risk from PIC emissions.* As discussed above, test data indicate that PICs are generally emitted at rates of from 0.5 to 5 times the rate of POHCs. Given that the preponderence of the PICs were relatively low molecular weight, volatile compounds even when the POHCs were high molecular weight, semivolatile compounds, and, given that the carcinogenic PICs have potencies similar to the POHCs. As discussed above, the increased lifetime cancer risk from unburned POHC emissions at a 99.99 percent DRE is on the order of 10^{-6} or less. Thus, PICs emitted at a rate of 0.5 to 5 times POHC rates would increase risks by less than half an order of magnitude—to 10^{-5} or less.

Although some dioxins (e.g., 2,3,7,8-TCDD) are orders of magnitude more potent than the other PICs (and POHCs) identified during the testing program, the emission of dioxins and furans were found to be virtually insignificant. Emission rates for all dioxin and furan homologs were converted to 2,3,7,8-TCDD emissions equivalents to estimate the increased lifetime cancer risk to the maximum exposed individual under reasonable, worst case scenarios. The risk from dioxin and furan emissions appears on the order of 10^{-7}.

c. *Use of CO limits to ensure high combustion conditions.* Generally accepted combustion theory holds that low CO (carbon monoxide) flue gas levels are indicative of a boiler, industrial furnace, or incinerator operating at high combustion efficiency. Operating at high combustion efficiency conditions helps ensure minimum emissions of unburned (or incompletely burned) organics.[33] In the first stage of combustion of hazardous waste fuel, the POHCs are immediately thermally decomposed in the flame to form other, usually smaller, compounds termed PICs (products of incomplete combustion). In this first stage of combustion, these PICs are also rapidly decomposed to form CO.

The second stage of combustion involves the oxidation of CO to CO_2 (carbon dioxide). The CO to CO_2 step is the slowest (rate controlling) step in the combustion process because CO is considered to be more thermally stable (difficult to oxidize) than other intermediate products of combustion of hazardous waste constituents. Since fuel is continuously being fired, both combustion stages are occurring simultaneously.

Using this view of waste combustion, the "destruction" of a POHC, and perhaps even the destruction of PICs, is independent of flue gas CO levels. Thus, CO flue gas levels cannot be correlated to DRE for POHCs and may not correlate well with PIC destruction. (As discussed above, test data show no correlation between CO and DRE, a slight apparent correlation between CO and chlorinated PICs, and a fair correlation between CO and total unburned hydrocarbons.) Low CO is an indicator of the status of the CO to CO_2 conversion process, the last, rate-limiting oxidation process. Since oxidation of CO to CO_2 occurs after destruction of the POHC and its (other) intermediates (PICs), the absence of CO is a useful indication of POHC and PIC destruction. The presence of high levels of CO in the flue gas is a useful indication of inefficient combustion and, at some level of elevated CO flue gas concentration, an indication of failure of the PIC and POHC destruction process. We believe it is necessary to limit CO levels to levels indicative of high combustion efficiency because we do not know the precise CO level that is indicative of significant failure of the PIC and POHC destruction process. In fact, that critical CO level may be dependent on site-specific and event-specific factors (e.g., fuel type, fuel mix, air to fuel ratios, rate and extent of change of these and other factors that affect combustion efficiency). We believe limiting CO levels is also reasonable because: (1) it is a widely practiced approach to monitoring combustion efficiency—many boilers and industrial furnaces are already equipped with flue gas oxygen monitors [34] and some are equipped with CO monitors; (2) although the annualized cost of oxygen and CO monitoring is estimated to be $20,000 (see Section II of Part Six), the monitors may in part pay for themselves in fuel savings resulting from operating the boiler or industrial furnace closer to maximum combustion efficiency; and (3) well designed and operated boilers and industrial furnaces can easily be operated in conformance with the proposed CO limits.

d. *Proposed CO limits.* The Agency is proposing the following limits on flue gas carbon monoxide (CO) levels, corrected to a 7 percent flue gas oxygen content.

CO limits	Consequence of exceeding limit
If >100 ppm average for any 60 minute period (rolling average).	Waste feed shutoff within 10 minutes.
If >500 ppm average for any 10 minute period (rolling average).	Immediate waste feed shutoff.

Both limits would apply. Test burn data and discussions with owners and operators of boilers and industrial furnaces indicate that these CO limits are readily achievable.[35]

[33] Given that CO is a gross indicator of combustion performance, limiting CO may not absolutely minimize PIC emissions. This is because PICs can result from small pockets within the combustion zone where adequate time, temperature, and turbulence have not been provided to oxidize completely the combustion products of the POHCs. Available data, however, indicate that PIC emissions do not pose significant risk when combustion devices are operated at high combustion efficiency. EPA is conducting additional field and pilot scale testing to address this issue.

[34] Oxygen monitoring would be required in conjunction with CO monitoring to adjust CO levels to a common excess air rate indicated by excess oxygen content in the flue gas. Correcting CO levels to a common flue gas oxygen content avoids the problem of having (otherwise) high CO levels diluted by large quantities of excess air. This issue is discussed further in the next section of the text.

[35] We note, however, that boilers that are well-operated (and typically equipped with CO monitors) may operate at CO levels of 150 to 250 ppm to maximize boiler efficiency. To optimize boiler efficiency (i.e., minimize the fuel required to generate 1,000 lbs. of steam), boilers are operated under slightly fuel-rich conditions. The energy lost from the relatively high stack gas CO levels is more than offset by the energy that would be required to heat ambient air fed to the combustion zone to increase fuel burnout (i.e., CO combustion, and combustion of carbon in coal and oil ash). Thus, to meet the proposed CO standards, some well-operated, finely-tuned boilers may have to operate at a lower boiler efficiency to operate at the high combustion efficiency required by the proposed CO limits. EPA believes that few boilers burning hazardous waste are currently equipped with CO monitors and would be required to operate under less thermally efficient conditions under this proposal. Nonetheless, the Agency specifically requests comments on this issue.

The 100 ppm limit is indicative of steady-state (i.e., normal), efficient combustion conditions. The higher limit of 500 ppm and the time weighted average for both limits are provided to accommodate the CO spikes that inevitably occur when hazardous waste fuel firing starts or when, for example, there is a load change on an industrial boiler. Test burn data and discussions with owners and operators indicate that the proposed limits and duration of exceedences will enable owners and operators to bring combustion conditions back to maximum efficiency after normal, routine "upsets" caused by initiating waste firing, load changes, etc.

Given that CO is a sensitive indicator of overall combustion conditions and may be a conservative indicator of POHC and PIC destruction, we are proposing time-weighted averages of exceedences rather than fixed limits. Fixed limits that do not acknowledge inevitable CO spikes and that do not give owners and operators time to retune combustion conditions could actually result in greater emission of incompletely burned organics. This is because each time hazardous waste firing is interrupted, CO will spike and emission of incompletely burned organics may increase. Thus, any controls on CO must strike a balance between the organic emissions that result from an overly-stringent CO limit that requires frequent waste feed interruptions versus the emissions that result from less stringent controls that acknowledge inevitable CO spikes.

We are proposing that the CO limits be based on a flue gas oxygen content of 7 percent. It is necessary to correct CO levels for flue gas oxygen content because (otherwise) high CO flue gas concentrations could be diluted by high rates of excess air. Although a boiler or industrial furnace may be operating under conditions that result in poor combustion efficiency and a high CO mass emission rate per unit of time, CO flue gas concentrations could be diluted to levels that meet the proposed limits if the device were operated at high excess air rates (which in itself could reduce combustion efficiency and increase the CO mass emission rate[36]).

We are proposing that CO be corrected to a flue gas oxygen content of 7 percent because we believe that the majority of boilers and industrial furnaces require flue gas oxygen levels of about 7 percent when burning hazardous waste at high combustion efficiency. We are aware, however, that optimum flue gas oxygen levels may range from 3 percent to 10 percent for these devices. Further, the optimum oxygen level to achieve high combustion efficiency for a given device will vary depending on factors such as fuel mix and boiler load. Although large combustion devices generally have optimum oxygen requirements on the low end of the range and smaller units on the upper end of the range, we believe that a level of 7 percent is reasonable given that it is in the middle of the range and that the majority of devices burning hazardous waste fuels have moderate heat input capacities (e.g., 20–150 MM Btu/hr).

We should note that, for the smaller devices with optimum oxygen requirements greater than 7 percent, as the gap widens between their optimum oxygen level and the 7 percent oxygen level selected for correcting CO levels, the CO limits effectively become more stringent. Even though these smaller devices may be operating at optimum excess air levels (i.e., at greater than 7 percent excess oxygen levels) and achieving high combustion efficiency and minimum CO levels, the proposed correction factor of 7 percent oxygen in effect presumes they should be operating at a lower excess air level. Thus, this approach presumes their CO levels have been diluted and requires a correction to the lower excess oxygen rate. For purposes of determining compliance with the proposed CO limits, their actual CO levels would be increased to those that would result from the "optimum" excess oxygen level of 7 percent.

Larger devices with optimum oxygen levels lower than 7 percent would not be adversely affected, since correcting to 7 percent oxygen would lower their measured CO levels.

EPA specifically requests comments on whether the proposed approach for limiting CO levels is appropriate, including the proposed limits, averaging times, and the requirement to correct CO levels to 7 percent flue gas oxygen levels. We also specifically request comment on whether a limit is needed on the number of CO spikes per unit of time in addition to the proposed time-weighted average limits. A device could be operating during an extended period of frequent combustion upsets without necessarily exceeding the proposed time-weighted averages. Comments are requested on this option, including on appropriate CO trigger spike level (e.g., 300 ppm) and an appropriate limit on the frequency (e.g., no more than 10 spikes per 15 minutes). Comments should include supporting documentation or data for any of the above issues.

EPA is specifically requesting comments on the appropriateness of these CO limits for cement kilns. Recently, it has come to the Agency's attention that cement kilns may have a problem meeting the proposed CO limits. Apparently, trace organic materials in the feedstock are burned-off as the feedstock moves through the kiln from the feed end to the hot end where fuels are fired. The burning of these trace organic materials apparently causes cement kilns to have a high baseline CO emission rate (e.g., 200–350 ppm) that is unrelated to the combustion of fuels in the hot end of the kiln. Therefore, EPA is requesting comments on: (1) Whether a different set of CO limits should be implemented for these devices (e.g., the proposed limits superimposed on a baseline CO emission rate); or (2) whether another monitoring method (e.g., nitrogen oxides) should be used for these devices. Commenters should document their positions keeping in mind that the Agency's goal is to provide for continuous monitoring of combustion efficiency to minimize PIC emissions from the burning of hazardous wastes.

EPA is proposing that if the 100 ppm time-weighted average limit is exceeded, the hazardous waste feed must be shutoff within 10 minutes. This allows the operator time to effect a controlled waste shutoff and to switch to another fuel. If, however, the 500 ppm time-weighted average limit is exceeded, we are proposing that the hazardous waste feed be shutoff immediately given that the device is in a major upset condition and is not operating anywhere close to high combustion efficiency.[37] Further, we are proposing that the hazardous waste feed cannot be restarted after a required shutoff until the operator demonstrates that the device can operate at maximum combustion efficiency for a reasonable period of time. Thus, we are proposing that hazardous waste firing cannot resume until the device is operated without exceeding a time-weighted average CO level of 100 ppm for an averaging period of not less than 10 minutes nor more than 60 minutes. We are proposing the 60 minute maximum averaging time

[36] High excess air rates can decrease combustion efficiency by "quenching" the flame with cooler ambient air resulting in lower combustion zone temperatures, and, ultimately, an unstable flame.

[37] EPA specifically requests comments on whether a controlled waste feed shutoff (e.g., over a 2-minute period) would be more appropriate than an immediate shutoff requirement when the 500 ppm limit is exceeded. A controlled shutoff may result in lower emissions of unburned organic compounds by allowing the operator to replace gradually the hazardous waste with other fuels, thus reducing "shock" to the combustion process.

period given that it is the basic CO performance standard indicating high combustion efficiency. If an operator can retune his boiler quickly, however, we do not believe he should have to wait the 60 minutes required under the basic CO standard to demonstrate that his CO levels do not exceed 100 ppm on average. Given that shorter averaging periods are actually more stringent because the operator has less time to offset CO levels greater than 100 ppm with levels lower than 100 ppm, we believe that shorter periods should be allowed. A 10 minute minimum averaging period is proposed because it is short enough to allow operators to resume burning hazardous waste quickly once they retune combustion controls and long enough to demonstrate that low CO levels can be maintained.

We are proposing that, if the CO limits are exceeded an aggregate of 10 times in a calendar month, the owner or operator must cease burning hazardous waste and notify the Regional Administrator in writing within 5 calendar days. In addition, the owner or operator may not resume burning hazardous waste unless and until written permission is received from the Regional Administrator. Depending on the circumstances, the Regional Administrator may modify the permit requirements (or place special conditions on interim status operations) to ensure that the device can be operated within the CO limits or to minimize the risks from emissions of incompletely burned organics if the device continues to exceed the limits. Those special conditions could include limits on waste firing rates and the types of waste that may be burned to ensure that the CO standard can be met. EPA specifically requests comments on this approach.

Finally, EPA is proposing to apply the CO (and DRE) requirements for blast furnace systems burning hazardous waste only to the stoves and boilers burning the blast furnace off-gas. These devices use approximately 93 percent of the off-gas generated (see Part One, Section IV.B.4 of this preamble). The remaining off-gas is burned in miscellaneous devices such as coke ovens, reheat furnaces, flares, etc. EPA is proposing not to limit CO (and DRE) from these burners since they burn such a small percentage of the off-gas. EPA specifically requests comments on whether this approach is appropriate.

C. Waiver of Trial Burns for Boilers Operated Under Special Operating Requirements

The DRE performance standard would be implemented for boilers and industrial furnaces very much as it is currently implemented for incinerators under Subpart O of Part 264, with one major exception for certain boilers, as discussed below. Industrial furnaces and boilers not operated under certain special conditions would demonstrate by conducting a trial burn that they can achieve the required DRE (99.9999 percent for dioxin-containing wastes and 99.99 percent for all other wastes) for specific organic compounds identified in the hazardous waste feed.

As a result of the nonsteady-state boiler testing discussed above, EPA believes that boilers operated under the special operating requirements discussed below will maintain a hot, stable, primarily fossil fuel flame conducive to maintaining high combustion efficiency, and resulting in maximum destruction of organic constituents in the hazardous waste fuel. EPA believes that these boilers will achieve at least a 99.99 percent DRE of organic constituents in the waste, and, therefore, a trial burn to demonstrate DRE is not necessary. Thus, EPA is proposing to waive automatically the requirement to conduct a trial burn to demonstrate DRE for boilers operated under the special operating requirements.[38]

Although the steady-state boiler tests indicate that boilers operating outside of the envelope of the special operating requirements identified below can also be operated to achieve maximum combustion efficiency and at least 99.99 percent DRE, the less the boiler operates as a primarily fossil fuel burner the greater the uncertainty that a hot, stable, and efficient flame can be maintained continuously. Thus, case-by-case trial burns would be required for those boilers (and all industrial furnaces) to determine that set of operating conditions necessary to ensure 99.99 percent DRE.

The special operating requirements requisite to an automatic waiver of a trial burn to demonstrate DRE require that: (1) The boiler must burn at least 50 percent of the fossil fuels oil, gas, or coal; (2) the boiler must be operated at a load of at least 25 percent of its rated capacity; (3) the hazardous waste fuel must have a heating value of at least 8,000 Btu/lb; and (4) the hazardous waste fuel must be fired with an atomization firing system. In addition to these special conditions for the waiver of a trial burn, these boilers, like other boilers and all industrial furnaces, would be subject to the carbon monoxide flue gas limits (implemented by continuous monitoring of CO and oxygen) discussed above, and could not burn hazardous waste during boiler start-up or shut-down operations. The basis for these requirements is discussed below.

1. *A minimum of 50 percent of the fuel fired to the boiler must be gas, oil or coal.* Cofiring with fossil fuels (or fuels derived from fossil fuels) as the primary fuel is required to ensure a hot, stable flame conducive to destruction of organic constituents in the waste. Other fuels (e.g., wood waste) may not provide hot, stable combustion zone conditions.

A minimum fossil fuel firing of 50 percent, on a total heat input or volume input basis, whichever results in the greater volume of fossil fuel, would be required to ensure a hot, stable flame. We are proposing a minimum 50 percent fossil fuel burning requirement because nearly all of the nonsteady-state boiler tests were conducted with hazardous waste cofired with oil or gas at less than a 50 percent firing rate. We specifically request comments and any relevant supporting data on whether the proposed 50 percent minimum firing rate is appropriate.

2. *Boiler load must be at least 25 percent.* We are proposing to limit boiler load when burning hazardous waste fuel to 25 percent of the boiler's rated heat input capacity because the combustion flame can be cooler and less stable at very low load factors. At low loads, higher excess air rates are used to improve fuel/air mixing. The increased excess air rates, however, can also cool the flame zone and even make the flame unstable (e.g., as a candle flame flickers in a breeze). These conditions can result in reduced combustion efficiency and destruction of organic constituents in the waste. Finally, EPA's nonsteady-state boiler tests were conducted at boiler loads of greater than 25 percent.

We specifically request comment and supporting documentation on whether the minimum 25 percent limit on boiler load is appropriate.

3. *The hazardous waste fuel, as fired, must have a heating value of at least*

[38] Emissions testing for boilers operating under the special operating requirements would be avoided entirely if the hazardous waste meets the proposed specification levels for certain metals and chlorine, as discussed in Sections III and IV of Part Three of the preamble. We note that even when emissions testing would not be required under today's proposed rule, a permit under the normal permitting procedures (e.g., Part A and Part B permit applications, opportunity for public hearings) would still be required. See Section I.A.2 of Part Four of the preamble for an explanation.

8,000 Btu/lb. We are proposing the minimum heating value of 8,000 Btu/lb because: (1) It represents the lower range of heating values of fossil fuels; (2) hazardous waste with a lower heating value is not generally burned in boilers[39]; and (3) few boilers burning hazardous waste with a lower heating value have been field-tested to determine if they can achieve 99.99 percent DRE and low CO emissions.

This heating value limit is imposed on the waste on an as-fired basis.[40] Thus, hazardous waste with low heating value may be mixed with other wastes or fuels to meet the 8,000 Btu/lb limit for the mixture. We are allowing mixing to meet this heating value limit even though heretofore mixing was not allowed to increase heating value to avoid sham recycling because our concern here is how the material will burn in a regulated and controlled device. Our concern with heating value previously has been to prevent the sham recycling of wastes with *de minimis* heating value by burning in unregulated boilers and industrial furnaces to avoid the cost of incineration.

Although our survey data[41] and discussions with industry representatives[42] indicate that hazardous waste fuels are typically cofired through separate firing nozzles rather than blended with fossil fuels (except when burned in *de minimis* quantities), some hazardous waste fuels may be blended with fuel oil so that the blend is the boiler's sole fuel. In those cases where hazardous waste with a heating value of less than 8,000 Btu/lb is blended with fuel oil or other fossil fuel and where the blend is the boiler's sole fuel, the owner or operator must show by calculation that, after considering the quantity of fossil fuel required to raise the heating value of the waste/fuel mixture to 8,000 Btu/lb, the remaining volume of fossil fuel provides a minimum of 50 percent of the boiler's heat input (or volume input whichever results in the greater volume input). This will ensure that the boiler meets both the waste heating value special condition and the fossil fuel firing special condition. Thus, this prevents a situation, albeit remote, where a 45/55 percent, waste/fossil fuel blend is fired as the sole fuel where the blend has heating value of just greater than 8,000 Btu/lb because of the very low heating value of the waste. We want to preclude this situation because such a low heating value mixture may not burn with the hot, stable flame that the fossil fuel firing condition is intended to provide.

We specifically request comment on whether the proposed minimum 8,000 Btu/lb heating value is appropriate.

4. *The hazardous waste fuel must be fired with an Atomization firing system.* Only liquid wastes fired with an air or steam atomizer, a mechanical atomizer, or a rotary cup atomizer are eligible for the automatic trial burn waiver. Hazardous wastes that are solids, or liquids fired with a lance (i.e., essentially a pipe that fires a stream of liquid rather than small droplets into the combustion zone) are not eligible.

An organic compound must be vaporized and mixed with air before combustion can occur. The quicker the waste and its constituents are vaporized and the more completely the volatilized compounds are mixed with air, the more rapid and efficient the combustion and destruction of organic constituents. Firing systems that atomize liquid wastes to form small droplets increase the rate of vaporization by providing a larger surface area per volume of waste to absorb heat from the flame.

We are proposing to allow the use of virtually all atomization systems commonly used to fire hazardous waste. We are, however, for some types of atomizers, proposing to restrict the viscosity and maximum size of solids for the as-fired hazardous waste to ensure that the appropriate droplet size is achieved[43] and to minimize plugging of the firing nozzle. The acceptable atomization systems and restrictions on waste viscosity and maximum size of solids are proposed as follows:

TABLE 1.—VISCOSITY AND PARTICLE SIZE LIMITS FOR ATOMIZATION SYSTEMS

Atomization systems	Waste viscosity limits (SSU)[1]	[1]Maximum size of solids (mesh)
High pressure air or steam atomization (>30 psig).	150 to 5,000	200
Low pressure air atomization.	200 to 1,500	200
Mechanical atomization.	<150	200
Rotary cup atomization.	175 to 300	100

[1] SSU: Seconds, Saybolt Universal.

a. *Air or steam atomization.* Air or steam atomization systems use air or steam to break up the fuel into small droplets. Under ordinary operations, high pressure steam or air provided at 30 to 150 psig produces much smaller droplets than other atomization systems. Because of the cost of providing high pressure air and where steam is not readily available, low pressure (1–5 psig) burners are sometimes used. Low pressure air atomization burners cannot effectively handle the wide range of viscosities that the high pressure systems can handle.

b. *Mechanical atomization.* Mechanical atomizers break up the fuel into small droplets by forcing it through a small, fixed orifice. A strong cyclonic or whirling velocity is imparted to the fuel before it is released through the orifice. Combustion air is provided around the periphery of the conical spray of fuel. The combination of combustion air introduced tangentially into the burner and the action of the swirling fuel produces effective atomization.

The size of the droplets produced by mechanical atomization is a function principally of the fuel viscosity and the fuel pressure at the atomizing nozzle. Because of the dependence of the droplet size on viscosity, mechanical atomizers are not applicable above viscosities of about 150 SSU. The pressure required to produce a droplet size conducive to optimum combustion efficiency depends on the volatility of the fuel. Highly volatile materials can volatilize rapidly even from larger droplets and, thus, can be fired at pressures of 75 to 150 psig. Less volatile fuels may require an atomization pressure of about 1,000 psig to form

[39] As discussed in Section II of Part Two of the preamble, EPA has heretofore considered the burning of hazardous waste with an as-generated heating value of less than 5,000–8,000 Btu/lb in boilers or industrial furnaces to be sham recycling subject to regulation as incineration.

[40] We are aware that hazardous waste with a heating value less than 8,000 Btu/hr is sometimes cofired in the same burner (i.e., firing nozzle) as fossil fuel. Although the waste is not physically blended before firing, the waste is blended with the fossil (or other) fuel in the flame envelope from the burner. We specifically request comment on whether such mixing with high heating value fuels after firing meets the objectives of the minimum waste heating value requirement, and how an allowance for such mixing could be structured in implementable and enforceable regulatory language.

[41] WESTAT, *Final Report for the Survey of Waste as Fuel: Track II*, November 1985.

[42] Keystone Center Workshop, February 11, 1985; Meetings with the Council of Industrial Boiler Owners on December 5, 1985, and October 9, 1986.

[43] The maximum viscosity is limited to ensure that resulting droplets will not be too large for optimum volatilization. Minimum viscosity is also limited to ensure that the droplet size is not too small—to ensure that a "fog" is not formed which could slow the rate of volatilization and, thus, combustion by reducing the radiant heat absorption of the droplets within the "fog."

droplets small enough to rapidly volatilize.

Given that fuel pressure is an important factor in determining droplet size, we believe it would be prudent to place requirements on minimum fuel pressure.[44] Optimum fuel pressure to produce an optimum droplet size, however, is a function of fuel volatility and fuel/air mixing. Thus, it is not practicable to propose specific limits on minimum fuel pressure. Rather, we are proposing that the boiler owner or operator be required to maintain fuel pressure within the atomization system design range considering the viscosity and volatility of the waste fuel, the fuel/air mixing system, and other appropriate parameters. Although this approach would entrust the atomization system manufacturer or designer (e.g., if designed and fabricated on-site) with determining an acceptable fuel pressure considering the specifics of the situation, we believe it is an acceptable approach. If fuel pressure is not maintained at appropriate levels to ensure small droplet size and optimum combustion efficiency or, if for any other reason the boiler does not achieve maximum combustion efficiency, the boiler will not be able to meet the combustion efficiency performance standard—the CO flue gas limits discussed above.[45]

Finally, to minimize erosion and plugging of the firing nozzle, we are proposing to limit the maximum particle size of solids in the as-fired waste to 200 mesh.

c. *Rotary cup atomization.* The rotary cup atomizer uses centrifugal force to break up the fuel into droplets. It consists of an open cup mounted on a hollow shaft. The fuel is pumped at low pressure through the hollow shaft to the cup which is rotating at several thousand revolutions per minute. A thin film of the fuel is centrifugally torn from the tip of the cup. As centrifugal force drives the fuel off the cup, combustion air is admitted in a rotation counter to the direction of the cup. This counter motion of the air breaks up the conical sheets of fuel into droplets and provides turbulence for mixing the droplets with air.

Rotary cup atomizers are typically used on smaller boilers (e.g., less than 30 MM Btu/hr heat input) because the maximum capacity of the largest unit is 1,400 pounds of fuel per hour. In addition, rotary cup atomizers are not often installed on new boilers because it is difficult to achieve optimum fuel/air mixing over a wide range of fuel flow rates. Rotary cup atomizers are used because they are relatively inexpensive, they can handle fuels with viscosities ranging from 170 to 300 SSU, and they are relatively insensitive to solid impurities in the fuel and can handle wastes with solids that can pass through a 100 mesh screen.

Droplet size is related primarily to the viscosity and flow rate of the waste and rotational speed of the cup. Resulting combustion efficiency is related to volatility of the waste and fuel/air mixing. Although it is impracticable to control these variables in a regulatory context, manufacturers and boiler owners and operators have ample experience with rotary cup atomizers to design units that achieve efficient combustion. Thus, we are proposing to require that owners and operators demonstrate that the as-fired waste has a viscosity and volatility within the design parameters of the firing system and limit waste flow rates consistent with the design parameters of the firing system. As discussed above, relative to mechanical atomization systems, if, in fact, the device does not produce droplet sizes and fuel/air ratios conducive to maintaining high combustion efficiency, the boiler will not be able to meet the combustion efficiency performance standard implemented by limiting flue gas CO levels.

D. Start-Up and Shut-Down Operations

Combustion devices do not burn fuels efficiently during start-up or shut-down operations, as evidenced by smoke emissions and high flue gas CO levels. Thus, we are proposing to prohibit the burning of hazardous waste fuels at these times.[46] (We note that EPA's incinerator regulations at 40 CFR 264 and 40 CFR 265 also prohibit the burning of hazardous waste during start-up and shut down operations.) Boilers operated under the special conditions for the automatic waiver of a trial burn as well as all other boilers and all industrial furnaces would be subject to this prohibition.

We are proposing to allow hazardous waste firing once the boiler reaches steady-state combustion conditions and is achieving maximum combustion efficiency. We believe the requirements proposed for when a boiler may resume hazardous waste firing after a required waste shutoff because of a CO exceedance should also apply here. See Section III.B.5.d of this part of the preamble. Thus, hazardous waste firing could begin after start-up once the operator demonstrates that the boiler is operating without exceeding a time-weighted average CO level of 100 ppm for either 10 minutes or 60 minutes.

With respect to shut-down operations, boilers operated under the special conditions for the automatic waiver of the trial burn could not burn hazardous waste when boiler load is less than 25 percent of the boiler's rated heat input capacity. Shut-down conditions for boilers conducting trial burns would be determined individually. Thus, those boilers would be allowed to fire hazardous waste fuel at loads of less than 25 percent if they demonstrate during the trial burn that they can meet the DRE performance standard and the CO limits when operating at low loads.

E. Waiver of Trial Burn and CO Limits for Low Risk Waste

A number of hazardous wastes may pose a risk of 10^{-6} or less to human health even if burned under poor combustion conditions—wastes containing only relatively low toxicity organic compounds like toluene, chloromethane, phthalates, benzene, methylene chloride, formaldehyde, trichloroethene, 1,1,1-trichloroethane, trichlorophenol, or vinylchloride, and wastes containing relatively moderate toxicity organic compounds burned at low firing rates. In either case, such wastes may pose insignificant health risk absent the organic emissions controls and, thus, should be exempt from those controls.

To address this issue, EPA is proposing a site-specific, risk-based

[44] Mechanical atomizers are susceptible to erosion of the orifices in the firing nozzle. Erosion can increase the size of the orifice resulting in decreased fuel pressure and increased droplet size. Limits on minimum fuel pressure, thus, would ensure that droplet size remains optimized during the course of operations by either increasing fuel pressure as the nozzle erodes and, more likely, replacing an eroded firing nozzle.

[45] As a matter of fact, it could be argued that *any* requirements other than the combustion efficiency performance standard (i.e., the CO limits) are unnecessary given that DRE is maximized and emission of incompletely burned organics are generally minimized at high combustion efficiency. EPA is proposing additional controls because we believe it is prudent to be conservative given that trial burns are automatically waived for boilers meeting these conditions and that the Agency has never before used flue gas CO as the sole test of combustion efficiency and adequacy of destruction of organic constituents in a waste. Further, the special conditions do not pose a significant burden on the regulated community, in that industry representatives have indicated that they agree that limiting CO to ensure high combustion efficiency is reasonable.

[46] Except that small quantity burners may burn hazardous waste during start-up and shut-down because: (1) they burn extremely small quantities of waste (i.e., less than 1 percent of fuel requirements) and, thus, the risk posed by PIC emissions resulting from burning the hazardous waste would be relatively small compared to the risk posed by PIC emissions resulting from the primary fuel; and (2) a prohibition on such burning would be impractical for small quantity burners given that they typically mix their hazardous waste with their primary fuel.

waiver of the destruction and removal efficiency (DRE) standard, the trial burn, and the flue gas CO limits. Under the waiver, an owner or operator must develop a reasonable, worst-case estimate of emissions of organic compounds and use dispersion modeling to predict maximum annual average ground level concentrations. Procedures for conducting the risk assessment will be provided in a guidance manual for permit writers entitled "Guidelines for Permit Writers: Permitting Hazardous Waste Combustion Facilities Using Risk Assessment." That guidance manual is referred to as the Risk Assessment Guideline or RAG. Those procedures are discussed below. For threshold compounds, the predicted concentrations must be compared to reference air concentrations identified in the RAG. For carcinogenic compounds, the predicted concentrations must be used to estimate the increased risk resulting from a lifetime exposure to the maximum annual average ground level concentration. The incremental risk cannot exceed an aggregate risk to the MEI from all carcinogenic compounds of 10^{-5}. Risk-specific doses (RSDs) corresponding to a 10^{-5} risk are provided in Appendix B to this preamble and will be included in the RAG.

To be eligible for the waiver, EPA must have identified in the RAG either a reference air concentration (RAC) (for threshold compounds) or a risk-specific doses (RSD) (for carcinogenic compounds) for every organic compound listed in Appendix VIII of 40 CFR Part 261 that is a constituent of the waste. Clearly, without adequate health effects data for a compound, a risk assessment cannot be conducted. Unfortunately, EPA currently has data adequate for establishing RACs and RSDs for only about 150 of the over 400 compounds on Appendix VIII. A number of wastes should nonetheless be eligible for the waiver because health effects data are available for many of the more common constituents. As additional data become available and the Agency establishes RACs or RSDs for additional compounds (or changes RACs or RSDs already established), the RAG will be revised to incorporate the information. Given that the RAG is incorporated by reference in today's proposed rule, any revisions will be noticed in the **Federal Register** as required by § 270.6(b).

The requirements for estimating emissions, dispersion modeling, and evaluating health effects are discussed below. These requirements will be discussed in detail in the RAG.

1. *Estimating emissions.* To estimate reasonable, worst-case emissions of combined constituents in the waste, the owner or operator must: (1) Identify every Appendix VIII organic constituent that could reasonably be expected to be found in the waste; (2) assume a reasonable, worst-case DRE (destruction and removal efficiency) for each constituent of 99%; and (3) assume a reasonable, worst-case emission rate of PICs (products of incomplete combustion) using a PIC/POHC emissions ratio of 5 to 1 (i.e., 5 grams of PICs are emitted per gram of unburned POHC at 99% DRE). For purposes of this waiver, a POHC is any Appendix VIII constituent found in the waste at detectable levels using analytical procedures specified by "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication SW-846 (See § 260.11).

A DRE of 99% is considered very conservative given that we never measured a DRE of less than 99.9% during the nonsteady-state testing of three boilers that were intentionally operated during upset conditions as evidenced by high CO and smoke emissions. A DRE of just less than 99.9% (but greater than 99%) was recorded during one of the 11 other steady-state boiler tests. That situation, however, is considered both atypical and suspect because: (1) the boiler burned waste wood mixed with creosote sludge on a grate; and (2) the DRE calculation is suspect because there is reason to believe that some POHC may have been a constituent of the waste wood (which was not analyzed) as well as the sludge.

A PIC to POHC ratio of 5 also appears to be conservative given that the ratio was generally 0.5 to 5. Although higher ratios were recorded, there is reason to doubt many of the higher values. See discussion in Section III.B.5.

2. *Dispersion modeling.* Dispersion modeling of emissions is to be conducted in conformance with "Guideline on Air Quality Models (Revised)," EPA Publication Number 450/2-7B-027R, July 1986. The guideline is available from the National Technical Information Service, Springfield, Virginia (Order No. PB 86-245248).[47]

Although the guideline is not a "cookbook" approach to conducting dispersion modeling, EPA, the States, and the regulated community have used the guideline for a number of years to select dispersion models to determine compliance with a number of Clean Air Act standards (e.g., particulate and lead National Ambient Air Quality Standards, regulations for the Prevention of Significant Deterioration (PSD)). Owners and operators seeking a waiver under this provision must submit a dispersion modeling plan with Part B of their permit application. The Director will determine if the proposed plan is in conformance with the Guideline and may require alternative or supplementary modeling.

Owners and operators of interim status facilities seeking a waiver under this provision, however, must submit with Part B of their permit application the results of their dispersion modeling. Further, the Part B application must be submitted six months after promulgation of the final rule (which would be six months before the effective date of the flue gas CO limits for interim status facilities). In effect, submission of Part B of the permit application seeking this waiver is required in lieu of compliance with the CO limits. The schedule for submission of the Part B with the results of dispersion modeling based on the above schedule will allow the Director six months to review the application for adequacy and reasonableness prior to the CO monitoring requirements coming into effect. This schedule is intended to assure that only those facilities that are qualified for the waiver will seek it and to discern those facilities merely trying to avoid CO monitoring requirements.

3. *Evaluation of health effects.* For compounds associated with noncarcinogenic health risks, the predicted ground level concentration must be less than the RACs identified in the RAG. If the RAG identifies RACs for both short-term and annual exposures (e.g., HCl), predicted ground level concentrations must be lower than either RAC.

For carcinogenic compounds, the predicted maximum annual average ground level concentration and the risk-specific doses (RSDs) provided by the RAG must be used to estimate the increased lifetime risk from each carcinogenic organic constituent in the waste. In addition, a reasonable, worst-case estimate of risk posed by PICs must be developed by assuming all PICs are carcinogens with a unit risk of 6.9×10^{-6}

[47] EPA specifically requests comments on whether the Guideline models are appropriate for predicting dispersion of organic compounds, metals, and HCl emitted from boiler and industrial furnace stacks to establish the national standards proposed today and to conduct case-by-case dispersion modeling to develop alternate, site-specific standards.

This corresponds to a risk-specific dose of 1 $\mu g/m^3$ at a 1×10^{-5} level of risk. That level for the PIC unit risk represents the weighted average unit risk of all chlorinated PICs identified during those nonsteady-state field tests where the boilers were intentionally operated under upset conditions.[48]

Given that EPA policy considers the risk from carcinogens to be additive, the risk from all the carcinogenic POHCs must be summed along with the cancer risk from PICs. The risks from carcinogenic organic emissions would not be considered significant if the aggregate risk did not exceed 1×10^{-5} (i.e., 1 in 100,000). This means that risks on the order of 10^{-6} would be allowed. EPA believes that this level of risk is reasonable for this purpose given the conservatism of the analysis and the comparable risk likely to be posed by burning only fossil fuels.[49/50]

IV. Proposed Controls for Emissions of Toxic Metals

A. Hazard Posed by Combustion of Metal-Bearing Wastes

In Appendix VIII of 40 CFR Part 261, the Agency has identified 12 metals that, if present in a solid waste, might be the basis for determining that the waste is a listed hazardous waste: antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, nickel, selenium, silver, and thallium. Five of these metals (or their compounds) are known or suspected human carcinogens—arsenic, beryllium, cadmium, chromium, and nickel.

Hazardous wastes used as fuel in boilers and industrial furnaces can have high metal levels relative to those found in No. 6 fuel oil as shown in the table below. Metal-bearing wastes typically burned as fuel (usually in industrial furnaces) include spent nonhalogenated degreasing solvents used for metals cleaning and spent halogenated degreasing solvents mixed with spent oils or other high heating value organic liquid wastes. Metals emissions from burning these wastes are not currently controlled for boilers and the types of industrial furnaces that burn hazardous wastes and can result in increased lifetime cancer risks of 1×10^{-4} (i.e., 1 in 10,000).

[48] Engineering-Science, *Background Document for the Development of Regulations to Control the Burning of Hazardous Wastes in Boilers and Industrial Furnaces*, Volume III, February 1987.

[49/50] Radian Corporation, *Summary of Trace Emissions from and Recommendations of Risk Assessment Methodologies for Coal and Oil Combustion Sources*, July 1986.

TABLE 2.—COMPARISON OF METALS LEVELS IN HAZARDOUS WASTE FUELS AND NO. 6 FUEL OIL

Metal	Fuel oil (ppm)		Hazardous waste fuel (ppm)	
	Mean	Worst	50th percentile	90th percentile
Arsenic	0.36	5	<0.5	18
Cadmium	1.2	2	<0.5	10
Chromium	0.4	10	<5.0	300
Lead	3.5	10	8	572
Beryllium	0.08	0.38	.....	.....
Nickel	24	73	<2	25
Barium	1.3	3.2	<5	251
Mercury	0.006	10	<0.05	<1.0

Source: Engineering-Science, *Background Document for the Development of Regulations to Control the Burning of Hazardous Wastes in Boilers and Industrial Furnaces*, Volume III, February 1987.

Under the Clean Air Act (CAA), EPA has established emission standards for beryllium and mercury for certain categories of sources (40 CFR Part 61), and has recently promulgated standards (for particular emissions) to control arsenic emissions from certain categories of sources (51 FR 27956 (August 4, 1986)). These emission standards were developed considering the quantities and types of metal emissions, current control practices, the risks posed by current practices, and the economic impacts on the industry of reducing emissions. Therefore, these emissions standards are not necessarily protective when applied to boilers or industrial furnaces burning hazardous waste fuel.

In addition to these metals emissions standards under the CAA, EPA has established National Ambient Air Quality Standards (NAAQS) for lead and particulates. These ambient standards are implemented by the States under the State Implementation Plan (SIP) program, and control major sources of lead and particulate emissions. Lead emission standards have not been established under the SIPs for any boilers and the EPA is unaware of any lead standard for industrial furnaces that burn hazardous waste fuel.

Particulate emission standards, however, established under the SIPs in conformance with the particulate NAAQS, or by EPA as New Source Performance Standards (NSPS), do apply to some boilers and virtually all industrial furnaces burning hazardous waste. The particulate standards limit metals emissions generally to the extent state-of-the-art particulate control technology will allow—high efficiency electrostatic precipitators (ESPs) or fabric filters are usually required to meet the standards. These particulate standards may not, however, adequately control metals emissions from burning hazardous waste fuels in boilers and industrial furnaces for a number of reasons: (1) the standards do not apply to gas and oil-fired boilers that represent a large number of hazardous waste fuel burners; (2) smaller coal-fired boilers are not subject to NSPS standards and may not be required under the SIPs to be equipped with ESPs or fabric filters; (3) large volumes of hazardous waste fuel are burned by light-weight aggregate kilns that are equipped with low pressure wet scrubbers that may not be highly efficient at collecting particules in the <1 micron range, the size range containing the bulk of the metals; and (4) the risks posed by metals emissions from these boilers and industrial furnaces that are equipped with ESPs, fabric filters, and wet scrubbers can increase substantially when hazardous waste fuel is burned given that the levels of some metals, particularly chromium and lead, can be much higher in hazardous waste than in coal as shown in the table below:

Metal	Bituminous coal (ppm)		Hazardous waste fuel (ppm)	
	Average	Range	50th percentile	90th percentile
Arsenic	20.3	0.02–357	<0.5	18
Cadmium	0.91	0.02–100	<0.5	10
Chromium	20.5	0.5–70	<5.0	300
Lead	NA	0.7–220	8	572
Nickel	16.9	1.5–7300	<2	25
Barium	NA	NA	<5	251
Mercury	0.21	<0.01–3.3	<0.05	<1.0

Sources: Engineering-Science, *Background Document for the Development of Regulations to Control the Burning of Hazardous Wastes in Boilers and Industrial Furnaces*, Volume III, February 1987; Radian Corporation, *Summary of Trace Emissions and Recommendations of Risk Assessment Methodologies for Coal and Oil Combustion Sources*, July 1986.
NA=Not available.

B. Basis for the Metals Standards

1. *Overview.* EPA is proposing to control emissions of particular metals found to pose a significant health hazard by establishing a four-tiered regulation. Each tier is a standard that is protective on its own—a demonstration of compliance with any tier is sufficient. Tiers I–III are risk-based national standards that are back-calculated from a reference air concentration for lead and the 10^{-5} risk-specific dose for arsenic, cadmium, and chromium, using dispersion factors (i.e., $\mu g/m^3$ per g/s of emission) for reasonable, worst-case facilities. Tier I is a specification establishing maximum allowable metals levels for the hazardous waste or the hazardous waste as-fired (i.e., after blending). Tier II provides limits on the feed rate of metals to the device taking into account metals levels in the hazardous waste, other fuel, and industrial furnace feedstocks. Tier III provides emission limits for individual metals expressed as lb of metal per million Btu of heat input to the device. The Tier I and II limits are identical to the Tier III limits, but they are applied somewhat differently. The Tier I specification levels are expressed as lb of metal per million Btu of waste heating value. The Tier II feed rate limits are expressed as lb if metal per million Btu of total heat input to the device.

Given that the Tier I–III standards are national standards based on reasonable, worst-case facilities, in some instances they may be more stringent than necessary to protect human health and the environment.[51] Thus, to add flexibility to the regulations while still ensuring protection of human health and the environment, we are proposing as Tier IV the use of site-specific dispersion modeling to show that lead emissions from the facility will not result in an exceedance of the lead reference air concentration (RAC), and that emissions of arsenic, cadmium, and chromium will not result in an incremental lifetime cancer risk greater than 1×10^{-5}.

2. *Identification of metals of concern.* The Agency's risk assessment indicates that the following metals are likely to be found in hazardous waste fuels at levels that could pose adverse health effects: arsenic, cadmium, chromium, and lead. Nickel, if present in its suspected human carcinogenic forms—nickel carbonyl and nickel subsulfide—could also pose significant health risk. However, we believe that burning in boilers and industrial furnaces under the conditions required for compliance with these rules (a highly oxidizing environment) will not provide the proper conditions (reducing environment) to create these compounds. Thus, nickel is not being included in these proposed standards (see also 51 FR 34135 (September 25, 1986)). The EPA is continuing to study other nickel compounds with respect to carcinogenic potency and will propose controls for these nickel compounds if data indicate that standards are necessary. EPA specifically requests emissions data on the presence or absence of nickel carbonyl and nickel subsulfide from boilers and industrial furnaces burning hazardous waste.

The risk assessment used reasonable, worst-case assumptions for emission rates, dispersion of emissions, exposure, and health effects. From reference air concentrations (RACs) for noncarcinogenic metals and 10^{-5} risk-specific doses (RSDs) for carcinogenic metals, we back-calculated emission rates for several reasonable, worst-case facilities (a light-weight aggregate kiln facility, boiler facility, and cement kiln facility). See Section II for a description of these facilities and our exposure assumptions. We then back-calculated further to identify concentration levels of concern in the hazardous waste assuming the devices burned 100% hazardous waste with a heating value of 8,000 Btu/lb. The boilers were assumed to have no emissions control equipment, the light-weight aggregate kiln was assumed to be equipped with a low pressure wet scrubber, and the cement kiln was assumed to be equipped with an ESP.

Although the Agency does not believe that hazardous wastes are likely to contain levels of the other metals—antimony, beryllium, mercury, selenium, silver, and thallium—at levels that could pose adverse health effects, a particular waste may in fact contain those metals at levels of concern. To enable the permit writer to determine if these metals may be present at levels that pose significant risk, facility owners and operators would be required to provide with Part B of their permit applications an analysis for these metals if they could reasonably be expected to be constituents of the waste. EPA will provide guidance to permitting officials to enable them to conduct risk screenings to determine if these metals may pose a hazard. If so, more detailed emissions and dispersion modeling will be conducted under authority of the omnibus provision of section 3005(c) of HSWA. If necessary, appropriate controls on those metals will be included in the permit.

A number of conservative health effects assumptions were used in the risk assessment. These same assumptions have been used to develop the Tier I–III standards and the Tier IV RACs for noncarcinogens. In addition to the assumptions discussed in Section II, we made the following assumptions for chromium and lead.

We assumed that chromium is emitted in its most potent carcinogenic form, hexavalent chromium. We believe this assumption is conservative, but reasonable for the purpose of determining whether chromium emissions could pose significant risk.

Chromium is likely to be emitted in either the highly carcinogenic, hexavalent state or in the relatively nontoxic trivalent state. (The data available to EPA at this time are inadequate to classify the trivalent chromium compounds as to their carcinogenicity.) Although the hexavalent state could be expected to result from combustion because it represents the more oxidized state, some investigators speculate that most of the chromium is likely to be emitted in the trivalent state given that the hexavalent state is highly reactive and thus likely to be reduced to the trivalent state. Although preliminary investigations indicate that 99 percent of chromium emissions from fossil fuel, municipal waste, and sewage sludge combustion sources may be in the trivalent state, the Agency is not now

[51] We note, again, that the Tier I–III standards may not be fully protective in unusual scenarios (e.g., situations where tip downwash, complex topography, or highly unusual meteorological conditions affect ambient levels greater than considered in the reasonable, worst-case scenarios). We will provide guidance to permit writers to enable them to identify these situations and apply appropriate controls under authority of HSWA Section 3005(c). Moreover, given that the Tier I–III standards add substantial complexity to an already complex rule and that the permit writers must ensure in each situation (but particularly in complex terrain situations) that the Tier I–III standards are appropriate (i.e., that the site being permitted does not have highly unusual topographic, meteorologic, or stack release properties (including severe tip downwash)), EPA specifically requests comments on whether (1) for complex terrain situations, site-specific dispersion modeling should be required in all cases in lieu of the Tier I–III standards; and (2) site-specific dispersion modeling should be required in all cases for all terrain types in lieu of the Tier I–III standards.

able to conclude that hexavalent chromium emissions from hazardous waste combustion facilities also represent only 1% of total chromium emissions. This is because of the possibility that hexavalent chromium may be a constituent of hazardous waste and may be emitted without changing valence. Until EPA completes on-going studies on the risk posed by chromium emissions from hazardous waste combustion sources, the Agency proposes to assume chromium is emitted in the hexavalent state for purposes of this rule. Emission controls, however, under Tier III and Tier IV options, which are based on actual emission testing, are to be based on hexavalent chromium if the emissions testing is capable of reliably determining whether the chromium exists in the hexavalent state. Otherwise, the Tier III and IV standards shall be applied to the total chromium emission. (Of course, the Tier I and II standards apply to the total chromium present in the waste.)

As additional data become available on the health effects of chromium emissions from combustion sources, the Agency will consider what, if any, amendments would be appropriate to the rule proposed today. The Agency specifically requests emissions data documenting the presence or absence of hexavalent chrome from boilers and industrial furnaces burning hazardous waste.

To consider the health effects from lead emissions, we adjusted the lead National Ambient Air Quality Standard (NAAQS) by a factor of one-tenth to account for background ambient levels. Thus, although the lead NAAQS is 1.5 $\mu g/m^3$, the lead RAC for purposes of this regulation is 0.15 $\mu g/m^3$.[52] (As discussed in Section II, the RACs for the other threshold compounds were based on 25 percent of the RfDs to account for other routes of exposure and exposure from other sources (e.g., background air levels).)

Finally, the risk-specific doses (RSDs) for the carcinogens were based on the unit risk estimates developed by EPA's Cancer Assessment Group and assuming an incremental lifetime cancer risk of 1×10^{-5}.

3. *Basis for the standards.* Rather than establishing risk-based standards, the Agency considered limiting metals emissions to the levels that could be emitted from burning No. 6 fuel oil. Hazardous waste fuel is often cofired with fuel oil in boilers without emission control equipment. Virtually all hazardous waste fuels currently burned are organic liquids (derived from petroleum) and are typically comprised of spent organic solvents, distilled bottoms from solvent recovery, and by-products from organic chemicals manufacturing. Thus, hazardous waste fuels typically displace fuel oils and they are stored, pumped, and fired very much like fuel oils.

There are a number of problems, however, with this approach. Hazardous waste is also cofired with, or in lieu of, coal and gas. In particular, most industrial furnaces that burn hazardous waste would otherwise be burning pulverized coal. The question then is whether the hazardous waste metal controls should be based on coal or oil. If it is to be based on coal, we must address the following issues: (1) should the comparison be to the mean, 95th percentile, or highest levels found in coal; and (2) should the coal burning device be assumed to be controlled with an ESP, a wet scrubber, or uncontrolled.

Another problem with basing the metals limits on levels that could be emitted from burning either fuel oil or coal is that, if 95th percentile or worst-case metals levels in the fuel oil or coal are used, risk levels could be significant—on the order of 1×10^{-4} (i.e., 1 in 10,000). (The health risks from burning oil or coal with mean levels of metals, however, would generally not result in significant health risk even under reasonable, worst-case scenarios.)

Because of these problems with basing metals limits for hazardous waste on levels resulting from the burning of fuel oil or coal, the Agency is proposing standards that are entirely risk-based.

4. *Tier I–Tier III standards.* The Tier I–Tier III standards are national standards back-calculated from a RAC for lead, and from 10^{-5} RSDs for arsenic, cadmium and chromium[53] using dispersion factors for reasonable, worst-case facilities. Given that the effects on ambient air concentration were different for each type of device (e.g., reasonable, worst-case boiler facility, cement kiln facility, lightweight aggregate kiln facility), we grouped the various devices into categories. See detailed discussion in Section II. There are two groups of categories, one for flat terrain and one for those devices in complex terrain. Each category has its own set of Tier I–III standards. The categories were selected based on similar health risk effects for the devices, i.e., impact on ambient air concentrations.

The flat terrain group of Tier I–III standards consists of three categories. Category 1 applies to sulfur recovery furnaces, asphalt kilns, halogen acid furnaces, and blast furnaces. Limits in this category are based on sulfur recovery furnaces since, for this category, this device has the greatest effect on ambient air concentrations.

Category 2 consists of light-weight aggregate kilns, lime kilns, and boilers. In this case, light-weight aggregate kilns are the basis for the limits for this category.

Category 3 consists of the wet and dry process cement kilns. These devices have the least effect on ambient air concentrations based on the ISCLT air dispersion modeling. Dry cement kilns are the basis for the limits in this category.

The limits for those devices in complex terrain are more stringent than if the devices are located in flat terrain. In addition, the categories for complex terrain are different from those for flat terrain in that there are four categories for complex terrain instead of three.

The Tier I–III levels for Category 1 in complex terrain apply only to blast furnaces. Emissions from these devices have the greatest impact in complex terrain. However, these devices should easily meet the Tier III requirements due to the type of process and air pollution controls required by existing air pollution regulations.

Category 2 for complex terrain consists only of sulfur recovery furnaces. Limits for these devices are about two times higher than for Category 1.

Category 3 for complex terrain consists of the majority of devices. This category includes asphalt kilns, light-weight aggregate kilns, lime kilns, halogen acid furnaces, and boilers. The Tier I–III limits are based on asphalt kilns since this device has the greatest impact on annual ambient air concentrations for this category.

Category 4 for complex terrain consists of cement kilns. These devices have the smallest effect on ground level concentrations, as was the case for flat terrain. Limits are based on dry process cement kilns.

All the limitations for Tiers I–III in complex and flat terrain are based on one device per site. If there is more than one device on a site, the limits for the largest device would have to be apportioned among all devices based on the thermal capacity of each device. However, permit conditions established

[52] This level represents a quarterly average. For the purposes of this regulation, an adjusted annual average of 0.094 $\mu g/m^3$ is being used. See footnote 17.

[53] The Tier I–III standards for arsenic, cadmium, and chromium are actually expressed as equations that ensure that the aggregate risk to the MEI from all three metals does not exceed 1×10^{-5}.

under Tier IV would consider all devices on the site (i.e., by multiple source dispersion modeling) in determining site-specific standards.

In addition, we note that the proposed Tier I–III standards may tend to overregulate some of the devices in each category. For example, Category 3 for complex terrain tends to overregulate all devices except asphalt kilns. This includes lime kilns, light-weight aggregate kilns, halogen acid furnaces, and boilers. The amount of overregulation is not very large, but if owners of such devices wish, they can comply with the site-specific, risk-based Tier IV standard which is, in effect, a waiver of the Tier I–III standards.

The Tier I standards are metals specification levels that apply to the hazardous waste on an as-fired basis (i.e., the levels apply to the waste directly or after any blending with other waste or fuel). The specification levels are expressed as lb of metal per million Btu of hazardous waste heating value and are equivalent to the values contained in the Tier III (and Tier II) standards. The Tier I specification levels are back-calculated from Tier III emission limits assuming the device burns 100% waste and all metal constituents are emitted.

The Tier I standards for lead would be a fixed limit (for each category). See proposed § 266.34–4(b)(1). The limits for the carcinogens arsenic, cadmium, and chromium, however, are not fixed, but rather are inter-related. The limits for each carcinogen depend on the levels of the others present. This is because the standards limit the aggregate (i.e., summed) risk to the MEI to 1×10^{-5}. Thus, a waste with a high concentration of one carcinogen must have relatively low concentrations of the other carcinogens so that the aggregate risk does not exceed the limit.

To demonstrate compliance with the Tier I standard, the owner or operator would simply analyze the waste. For lead, the waste would be in compliance if the lead level is no greater than that specified for the appropriate device category. For arsenic, cadmium, and chromium, the owner or operator would be required to use the Tier III equation for the appropriate category and show that the equation is satisfied (i.e., that the aggregate risk does not exceed 1×10^{-5}). The Tier I (and Tier II) limits are numerically equivalent to the Tier III limits. Only the units are different. See Appendix C for example calculations to apply the Tier I (and Tier II) standard.

The Tier II standards are metals feed rate limits expressed as lb of metal per million Btu of total heat input to the device. Feed rate limits would be established for arsenic, cadmium, chromium, and lead for all categories of devices. See proposed § 266.34–4(b)(2). The feed rate limits are implemented by an equation that computes the feed rate of each metal (in lbs/MM Btu) considering the metals levels and feed rates of other fuels and industrial furnace feedstocks. Compliance with Tier II is demonstrated by analysis of the hazardous waste, other fuels, and industrial furnace feedstocks for metals, documentation of feed rates, and a showing that the total metals feed rate does not exceed the Tier III metals emission limits. (Owners and operators would sample nonwaste feed materials only for the same metals found in the hazardous waste feed.) Thus, the Tier II standards are conservative in that it is assumed that all metals in all feed materials are emitted.

The Tier III standards are emission limits expressed as lb of metal per million Btu of total heat input to the device. The emission limits are back-calculated from the lead RAC and the 10^{-5} RSDs for arsenic, cadmium, and chromium using dispersion factors for the worst-case facility in each category. Compliance with Tier III is demonstrated by emissions testing.

5. *Tier IV standards.* The Tier IV standards require site-specific dispersion modeling that predicts that metals emissions will not result in an exceedance of the lead RAC and an aggregate risk (from arsenic, cadmium, and chromium) to the MEI of 1×10^{-5}. The RAC for lead (and other noncarcinogenic compounds) and the RSDs for the carcinogens will be identified in the Risk Assessment Guideline (RAG).[54] The RSDs are based on the unit risk estimates provided by EPA's Cancer Assessment Group and an aggregate increased lifetime risk to an individual exposed to the maximum annual average ground level concentration of 1×10^{-5} (1 in 100,000). See proposed § 266.34–4(b)(4). This is the same basis on which the Tier I–III standards were developed.

As discussed in Section III.D, dispersion modeling is to be conducted in conformance with EPA's Guideline on Air Quality Models. In addition, stack heights used to determine dispersion factors shall not exceed Good Engineering Practice as defined in 40 CFR Part 51.

EPA specifically requests comments on how many facilities are likely to elect to comply with the Tier IV standard (for metals or HCl) and, if the Tier IV standard were not available, the changes to equipment and operations that would be required to comply with the Tier I III standards.

6. *Implementation of the metals controls.* The Tier I limits would be implemented by permit conditions that limit concentrations of the regulated metals in the waste, and waste fuel rates, and that specify waste sampling and analysis procedures. We are proposing that the concentration limits (as well as the limits developed under Tiers II–IV) represent maximum limits that can never be exceeded. We considered whether the limits should represent average values (e.g., hourly, daily, weekly, monthly, or even yearly averages). An argument could be made that a yearly average would be appropriate because the health effects data used to support the standards are based on maximum annual average exposures (except for HCl where a 3-minute maximum exposure drives the health risk). We believe, however, that allowing averaging would complicate operator recordkeeping and EPA inspection and enforcement activities. We specifically request comment on whether and how averaging should be allowed for compliance with the metals (and HCl) standards.

The Tier II standard would be implemented by permit conditions that limit concentrations and feed rates of the regulated metals in the waste, fuels, and industrial furnace feedstocks. Permit conditions would also specify sampling and analysis procedures for all feed materials.

The Tier III standard would be implemented by emission testing and permit conditions that: (1) Establish emission limits for each metal (including carcinogenic metals); (2) specify operating and maintenance requirements for any emission control equipment; (3) specify operating requirements for the system, as necessary, that relate to metals emissions rates (e.g., chlorine content of the waste); (4) limit concentrations of the regulated metals in the waste and limit waste feed rates; and (5) specify waste sampling and analysis procedures.

C. Impacts of the Metals Standards on the Regulated Community

Regulatory impacts and an analysis of the cost-effectiveness of the proposed rules are discussed in detail in Section 11 of Part Six. This section presents information on the ability of owners and operators to comply with the proposed metals controls.

[54] Risk Assessment Guideline is the short title for "Guideline for Permit Writers: Permitting Hazardous Waste Combustion Facilities Using Risk Assessment." (To be developed)

Based on conversations with owners and operators of industrial boilers and our analyses of hazardous waste fuels, it appears that industrial boilers can readily meet these proposed standards even though oil and gas fired industrial boilers are not equipped with emissions control devices. Industrial boilers typically burn waste generated onsite and the facilities that burn the largest volumes of wastes are organic chemicals manufacturing plants. These facilities burn relatively large quantities of organic liquid by-products that generally do not contain high levels of metals.

On the other hand, industrial furnaces, principally cement and light-weight aggregate kilns, accept huge volumes (e.g., 5 to 20 million gallons per year per facility) of hazardous waste generated off-site. These wastes are typically comprised of spent organic solvents and organic solvent recovery distillation bottoms. Many of the metals of concern to EPA do not interfere with the production of quality cement clinker or light-weight aggregate even at concentrations of several hundred or several thousand ppm, as evidenced by waste fuel specifications developed by industrial furnace operators. (Industrial furnace operators frequently obtain their hazardous waste fuels through a broker responsible for collecting hazardous waste from generators and blending the wastes to meet the operator's specifications.)

Although industrial furnaces typically burn hazardous waste fuels with very high metals levels, they are virtually always equipped with particulate emissions control devices because of the large quantities of particulates generated by processing the feedstocks (e.g., limestone in cement kilns, clay or shale in light-weight aggregate kilns). Not incidentally, these industrial furnaces are subject to Federal and/or State regulations for particulate emissions. Given that industrial furnaces are already equipped with particulate collection equipment and given that these devices can achieve substantial removal of metals as well (see Table 3), industrial furnaces in general, and cement kilns in particular, are expected to be able to meet the proposed metals standards readily. Cement kilns are equipped with electrostatic precipitators (ESPs) or fabric filters (FFs) that are expected to remove 98 to 99% of metals from stack gases.

Most light-weight aggregate kilns may not be able to burn hazardous waste fuels with high metals levels because they are typically equipped with low pressure wet scrubbers to control particulate emissions. Based on conversations with industry representatives, several light-weight aggregate kilns, however, are equipped with high pressure, relatively efficient venturi scrubbers with estimated metals collection efficiencies comparable to ESPs. Owners and operators would have a number of options if current collection efficiencies would not be adequate to meet the standards: (1) increase the pressure drop across the device to increase its collection efficiency; (2) blend wastes with very high metals levels with wastes with lower metals levels; and (3) stop accepting those particular wastes with extremely high metals levels.

TABLE 3. ESTIMATED METALS COLLECTION EFFICIENCES OF VARIOUS CONTROL DEVICES

Metal	ESP [a] (percent)	FF [b] (percent)	Venturi scrubber (percent)	Spray tower (percent)
Arsenic	98	99	98	50
Cadmium	99	99	98	93
Chromium	98	99	98	93
Lead	98	99	97	50

[a] Electrostatic precipitator.
[b] Fabric filter.

Source: Engineering-Science, *Background Information Document for the Development of Regulations to Control the Burning of Hazardous Wastes in Boilers and Industrial Furnaces*, Volume 111, February 1987.

V. Proposed Controls for Emissions of Hydrogen Chloride

A. Hazard Posed by Combustion of Highly-Chlorinated Waste

Highly-chlorinated wastes from the manufacturing of organic chemicals and highly-chlorinated spent solvents and solvent recovery distillation bottoms are routinely used as fuels in industrial furnaces and some specially-designed boilers. Chlorine in hazardous waste fuel produces hydrochloric acid (HCl) upon combustion which can have beneficial effects on industrial furnace process chemistry [55] or can allow for efficient recovery of HCl from combustion gases from specially designed boilers.[56] Some industrial boiler operators are also investigating whether the cofiring of hazardous waste fuels containing on the order of 3% chlorine with oil and natural gas in standard boilers will cause accelerated corrosion of boiler parts.

The burning of highly-chlorinated hazardous waste fuel can pose a serious health hazard if the resulting HCl is not controlled by reacting with industrial furnace feedstocks, recovered for use as a by-product, or otherwise removed with flue gas cleaning equipment (e.g., wet scrubbers). Risk assessment using the reasonable, worst-case facilities discussed previously indicates that hazardous waste chlorine levels as low as 530 ppm could pose exceedances of the HCl reference air concentrations (RACs) (where the device burned 100% hazardous waste with a low heating value and all chlorine in the waste was emitted as HCl). The RAC for annual exposure to HCl is 15 $\mu g/m^3$ and is based on the threshold of respiratory effects. Background levels were considered to be insignificant given that there are not many large sources of HCl (as compared to sulfur oxides) and the pollutant generally should not be transported over long distances in the lower atmosphere. The RAC for 3-minute exposures is 150 $\mu g/m^3$. Both RACs will be identified in the Risk Assessment Guideline (RAG).

We note that there is the remote possibility that a chlorinated waste may not have sufficient available hydrogen (i.e., from other hydrocarbon compounds or water vapor) to react with all of the chlorine in the waste. In this case, there is the potential for emission of free chlorine which has toxic properties. Although this issue could be addressed by the permit writer under the omnibus

[55] Chlorine-bearing materials are sometimes charged to cement kilns to neutralize the highly alkaline conditions in the kiln. Hazardous waste fuel containing 3 to 5% chlorine has thus been used for the dual purpose of providing heat and chlorine for the neutralization reactions. Hazardous waste fuels with similar chlorine levels have also been fired in blast furnaces for both their heating value and the beneficial effect of the chlorine (the chlorine is believed to improve the flow of the blast furnace charge down through the furnace by minimizing charge "hangups.")

[56] Dow Chemical Company uses modified boilers for the dual purpose of recovering energy and producing HCl (by scrubbing combustion gases) from highly-chlorinated process streams (e.g., 45% chlorine).

authority of HSWA section 3005(c), we specifically request comment on the extent to which this phenomenon may occur and whether explicit standards for emissions of free chlorine should be provided.

B. Basis for the Standards

EPA is proposing to regulate HCl under the same risk-based regulatory structure proposed for metals and for the same reasons. As with the metals, there are two groups of standards; one for complex terrain, and the other for flat terrain. Each group is broken up into categories based on the effect of ambient air concentration from each device. The limits for HCl are based on short term modeling for the 150 $\mu g/m^3$, 3-minute RAC level since short-term exposure rather than annual exposure is the limiting factor.

The HCl limits in flat terrain consist of four categories. The first category consists of sulfur recovery furnaces and halogen acid furnaces. Category 2 consists of blast furnaces and asphalt plants (limits based on blast furnaces). Category 3 consists of light-weight aggregate kilns, boilers, and lime kilns. The limits for Category 3 are based on light-weight aggregate kilns since this is the worst case for this category. Finally, Category 4 consists of the cement kilns.

The HCl limits for complex terrain consist of three categories. The first is blast furnaces. Category 2 consists of the majority of devices, and includes sulfur recovery furnaces, light-weight aggregate kilns, asphalt kilns, halogen acid furnaces, and lime kilns. Sulfur recovery furnaces are the basis of limits for this category. Category 3 consists of the cement kilns.

There is also a Tier IV standard for all devices (see proposed 266.34–4(c)(1–4)) which allows site-specific dispersion modeling to demonstrate that HCl emissions do not exceed the RACs. Although the equation for computing the allowable chlorine concentration in hazardous waste under the Tier II standards is somewhat different from the Tier II approach proposed for metals, the principle is the same. The feed rate of chlorine from hazardous waste, other fuels, and industrial furnace feedstock (for Tiers I and II) is back-calculated from the Tier III emission limits.

We note that the Tier IV standard requires compliance with both the maximum annual average and the maximum 3-minute RACs, whereas the Tier I–III standards are based solely on the 3-minute RAC. This is because the 3-minute RAC is more stringent in the modeling used to support the Tier I–III standards, but cannot be assumed to be more stringent under the Tier IV standard that requires site-specific modeling.

We also note that there are no Tier I or Tier II standards for halogen acid furnaces since these devices, by definition, burn wastes with very high halogen levels. Halogen acid furnaces would, therefore, comply with Tier III or Tier IV standards.

VI. Nontechnical Requirements

In addition to the technical stack emission standards discussed above, EPA is also proposing to apply the nontechnical standards applicable to other hazardous waste treatment, storage, and disposal facilities to boilers and industrial furnaces burning hazardous waste. These nontechnical standards address the potential hazards from spills, fires, explosives, and unintended egress; require compliance with the manifest system to complete the cradle to grave tracking system; ensure that hazardous wastes (and hazardous residues) are removed from the site upon closure; and ensure that the owners and operators are financially capable of complying with the standards.

The nontechnical standards that would apply under today's rule to boilers and industrial furnaces burning hazardous waste are identical to those that currently apply to hazardous waste incineration facilities. The Part 264 permit standards applicable to incinerators would apply to permitted boilers and industrial furnaces and the Part 265 standards applicable to incinerators would apply to boilers and industrial furnaces in interim status. Those standards are prescribed in proposed § 266.34–1(c) for permitted facilities and § 266.35–1(d) for interim status facilities.

VII. Proposed Exemption of Small Quantity On-Site Burners

Section 3004(q)(2)(B) of RCRA provides EPA with explicit authority to exempt from regulation facilities which burn *de minimis* quantities of their own hazardous wastes. The Administrator is to ensure that such waste fuels are burned in devices designed and operated in a manner sufficient to ensure adequate destruction and removal to protect human health and the environment. The Agency has carefully evaluated the risks posed by small quantity burning, and concluded that a conditional exemption for small quantity burners should be allowed because an exemption can be structured to exempt facilities whose practices pose insignificant risk. The scope of the exemption, rationale for the exemption, and a brief description of the methods used to develop eligibility conditions are discussed below.

A. Scope

Burner eligibility for the exemption will be determined by two principal factors: device size and the quantity of waste burned per month. The Agency is proposing to set different volume cut-offs for different device sizes. See proposed § 266.34–1(b). These volumes were calculated using a series of conservative assumptions about device location, waste composition, and destruction efficiency of organic constituents. These volumes, if burned, are expected to pose insignificant health risks. While the Agency recognizes that calculations based on less conservative assumptions would result in much larger volume estimates, EPA believes that the variation within burning practices justifies the use of the selected assumptions—especially since eligible burners will be exempt from all of the permitting standards otherwise applicable to waste-as-fuel activities. The only requirements that would apply to such small quantity burners are that they notify EPA within 30 days of final promulgation of this rule that they are burning small quantities of hazardous waste and that they keep records to demonstrate conformance with the quantity and firing rate limits.

With two exceptions discussed below, any device regulated by these standards burning hazardous waste fuel at a rate lower than the applicable volume cut-off is eligible for the *de minimis* burner exemption from permitting standards. This exemption is intended to apply to any boiler, including residential, institutional, commercial, industrial and utility boilers. The exemption also applies to all blast furnaces, asphalt kilns, lime kilns, sulfur recovery furnaces, light-weight aggregate kilns, and cement kilns burning hazardous wastes.[57] The Agency has performed conservative evaluations of the potential risks posed by these small quantity burners, and has determined that no regulatory controls (other than notification and recordkeeping requirements and a limit on the maximum firing rate) are necessary to ensure protection of human health and the environment.

For the most part, the exemption would be limited to the types of

[57] Other industrial furnaces are not eligible for the exemption because they were not included in the risk assessment developed to support this provision. We specifically request information on the burning of small quantities of hazardous waste in other industrial furnaces.

situations described in the statutory provisions. Thus, only burners who burn hazardous waste fuels they generate on-site would be eligible for the exemption.[58] Although wastes generated off-site may not pose greater risks when burned than those generated on-site, as a practical matter, burners accepting waste from off-site are not likely to be able to meet the *de minimis* quantity limits. In addition, facilities which burn *de minimis* quantities of hazardous wastes must notify EPA that they are burning hazardous wastes and maintain records of the waste quantities burned. Also, in order to ensure that large quantities of wastes are not burned within a short period of time that could result in lower destruction efficiencies than assumed in the analysis (e.g., lower than 99%), exempt burning would be conditioned on a limit on the waste burning rate. Hazardous wastes could not be fired at greater than 1 percent of the boiler firing rate at any point in time. Thus, the rule would require that burners keep records to document that they are not exceeding the 1 percent firing rate limit.

Boilers and furnaces burning hazardous waste fuels containing or derived from any of the following acute hazardous wastes are not eligible for the exemption: EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027. Given the toxicity of these wastes, EPA does not believe it is appropriate to exempt them from regulation. Hazardous waste fuels containing or derived from these acutely hazardous wastes must be burned at a 99.9999 percent destruction and removal efficiency (DRE) under today's proposed rules. We cannot expect boilers and furnaces to achieve that level of DRE when operating outside of the Agency's regulatory system.

Finally, there are limits on the number of sources allowed under this exemption due to the limitations of the risk analysis as discussed below. In addition, no more than one type of device may burn waste under this exemption at a given site.

[58] Boilers and furnaces that burn their own hazardous waste fuels as well as hazardous waste fuels generated by small quantity generators and exempt from regulation under 40 CFR 261.5 are eligible for the proposed small quantity burner exemption because such small quantity generator hazardous waste fuels are exempt from these proposed rules. Those exempt small quantity generator hazardous waste fuels must, however, be counted in the small quantity burner volume determination because the volume limits are risk-based. When larger volumes of hazardous waste fuels are burned outside of today's proposed controls, the risk could be significant, irrespective of the source of generation of the waste.

B. Rationale

The Regulatory Impact Analysis (RIA) developed in support of this rule [59] indicates that a large number of devices, especially boilers, burn very small quantities of hazardous waste fuel—approximately 25 percent of all burners (250 devices) burn less than 50 gallons per month. The RIA concludes that it would not be cost-effective for these devices to comply with the proposed controls since alternative management practices would be less expensive. The RIA also concludes that the risks posed by these devices are insignificant. Thus, the proposed small quantity exemption is designed to avoid disturbance of a common waste recycling practice which the Agency recognizes as protective of human health and the environment.

C. Basis for Selecting Quantity Limits

A detailed description of the methodology used to calculate volume cut-offs for the exemption is available for public review and comment.[60] A summary of the methodology is presented here for the reader's convenience.

EPA evaluated the risks posed by emissions of organic compounds, metals, and hydrogen chloride, the parameters controlled in the substantive regulations. The analysis demonstrates that the risks posed by organic emissions from waste-as-fuel activities are overwhelmingly dominated by the risks posed by carcinogenic (as opposed to noncarcinogenic) waste constituents. Accordingly, the initial evaluation performed in support of the *de minimis* exemption focused exclusively on carcinogenic risks, on the assumption that controls ensuring insignificant risks from organic carcinogens will ensure protection against non-carcinogenic releases. This assumption was confirmed by evaluating the potential risks from metals and hydrogen chloride which could result when those quantities of waste indicated by the risk analysis for organic carcinogens were burned.

The risks from burning small quantities of hazardous waste in boilers are determined primarily by the following factors:

- Composition of the waste stream being burned;
- Toxicity and concentration of hazardous constituents in the waste stream;
- Destruction efficiency achieved by the device;
- Local meteorology, which determines the amount of dispersion of stack emissions;
- Clustering and size of sources, i.e., number of boilers at a specific location.
- The type of device in which the waste is being burned.

The values of these parameters can and do vary widely. Therefore, in order to perform the risk analysis, the Agency duplicated a hypothetical situation which would be considered a reasonable, worst-case scenario. This methodology was used to calculate the volume cutoffs for the various boiler sizes which would result in less than a 1 in 100,000 risk of cancer to an individual residing for 70 years at the ground level point of maximum exposure to reasonable, worst-case stack emissions. Separate calculations were made for each of the device sizes evaluated, resulting in differing quantity limits for each device size. The rationale for the assumptions used in the risk analysis is discussed below.

1. *Composition of hazardous waste stream.* Composition data on hazardous waste-derived fuels is scarce. Information gathered by the mail questionnaire survey and other industry contacts indicates that most of the materials burned are organic solvents that are usually classified as hazardous based on ignitability plus toxicity. In addition, analysis of past tests and ongoing studies indicate that the burning of most hazardous wastes may show risks which are very similar to the risks of burning fossil fuels. The actual concentrations of carcinogens in wastes burned by 21 facilities during EPA's field testing program for boilers and industrial furnaces ranged from zero to 17 percent with an average of approximately 4 percent. For the purposes of this risk assessment, the waste streams were assumed to contain 50 percent carcinogenic compounds.

2. *Toxicity of hazardous constituents.* In addition to assuming that the waste stream contained 50 percent carcinogenic compounds, we assumed that the carcinogens had a potency equivalent to a Q^* (slope of the dose response relationship) of 1. This potency is comparable to the potency of PCBs, DDT, chlordane, and toxaphene. Further, the assumed potency of the carcinogenic compounds is 15 times greater than the average potency of the carcinogens found in the wastes at the 21 field test facilities.

[59] Industrial Economics Incorporated. *Regulatory Analysis for Waste as Fuel Technical Standards.* October 1986 and addendum, January 1987.

[60] Versar Inc., *Analysis for Calculating a De Minimis Risk Exemption for Burning Small Quantities of Wastes in Boilers and Industrial Furnaces.* January 1987.

3. *Destruction efficiency.* The burner destruction efficiency determines the quantity of unburned hazardous wastes which will be emitted from the stack. Assumed values for boiler and furnace performance were selected based upon a review of test data generated in support of this rule and based on the professional judgment of Agency staff familiar with the destruction and removal efficiencies (DRE) typically achieved by boilers. It was assumed that, in the worst-case, boilers and furnaces would only achieve 99 percent DRE of organic constituents. This represents a very poorly performing combustion device. In fact, as explained previously, most boilers and furnaces can be expected to achieve 99.99 percent DRE of organic waste constituents even when operated under less than optimal conditions.

In addition to the incomplete combustion of the organic hazardous waste constituents (POHCs), there are also products of incomplete combustion (PICs) present in the emissions from burning hazardous wastes (and any other fuel). These PICs can make a significant contribution with respect to the risks from a source. A PIC to POHC ratio of 5.0 was selected for the risk analysis based on a review of test data for the unsteady state tests discussed previously. The carcinogenic potency assumed for PICs is the same as that assumed for the incompletely burned hazardous waste or POHCs (Q Star=1.0). This is considered a very conservative assumption.

4. *Clustering and size of sources.* The size of the sources and the number of emission points which exist at a location have a major impact on ambient air concentrations of the various constituents from stack emissions. The Agency's mail questionnaire survey of boilers burning hazardous wastes shows that more than two-thirds of the boilers are located on sites which have more than one boiler burning hazardous wastes. Therefore, for the purposes of this analysis, a site was assumed to have two boilers. In addition, for the reasonable, worst-case scenario, it was assumed that there would be two facilities adjacent to each other. Finally, to simplify the modeling analysis, the conservative assumption was made that all four boilers were emitting at a single point. This conservatism was further reinforced by the assumption that the sources were simultaneously burning hazardous wastes. Various sizes of boilers were modeled using typical physical characteristics (e.g., stack height, flue gas rates and temperatures). The descriptions of the devices modeled are provided in the support document for this provision: Versar Inc., *Analysis for Calculating De Minimis Risk Exemption for Burning Small Quantities of Hazardous Waste in Boilers and Industrial Furnaces.* January 1987. As a result of this limitation in the risk analysis, the number of boilers burning hazardous wastes under the small quantity burner exception is limited to two per site. The quantity limit for each would apply according to its size (i.e., one boiler could not burn the quantity allocated to both). The EPA requests comments on whether this limitation is reasonable and, if not, what method of apportionment should be used for sites with more than two boilers burning hazardous wastes under this exemption.

For the industrial furnaces a similar analysis was made to determine the clustering of furnaces at a location. As a result of this review, it was determined that the following worst case clustering would be used:

Blast Furnaces—2
Asphalt Kilns—1
Sulfur Recovery Furnaces—4
Light Weight Aggregate Kilns—3
Lime Kilns—2
Wet Cement Plants—3
Dry Cement Plants—3

As a result of this analysis, the number of furnaces burning hazardous waste under this exemption is limited to that on the above list. In addition, only one type of device may burn hazardous wastes under this exemption. This is because the risk analysis supporting the exemption did not take into account mixed categories or types of devices at a site. As with boilers, the EPA requests comments on whether this limitation is reasonable and, if not, what method of apportionment should be used for sites with more furnaces burning hazardous wastes under this exemption than is allowed on the above list.

5. *Dispersion.* For purposes of the reasonable, worst-case analysis, EPA assumed that the devices were located in areas of complex terrain, and used appropriate dispersion models (the same used to develop the Tier I–III values for complex terrain) to evaluate pollutant dispersion. The assumption of complex terrain is generally conservative since it is the situation generally leading to the least dispersion.[61]

[61] We note that the devices were also modeled assuming they were located in flat terrain. In some cases, the flat terrain modeling resulted in poorer dispersion than the complex terrain modeling because of unusual meteorologic or stack tip downwash conditions. The modeling that resulted in the poorer dispersion was used to establish these quantity limits.

6. *Assumptions regarding metals and chlorine in waste fuels.* A similar reasonable, worst case analysis was performed to evaluate the potential risks posed by emissions of toxic metals (including carcinogens) and hydrogen chloride from *de minimis* burners. As a result, it was determined that, at the volume cut-offs specified by the exemption, metals emissions caused by cofiring of hazardous wastes containing metals at the 90th percentile level (see Table 1) would not pose a significant risk. The analysis also considered hydrogen chloride emissions and assumed a chlorine content of 50 percent in the hazardous waste fuel. The chlorine content in actual hazardous wastes seldom exceeds 3 percent: however, the highest chlorine content measured in a hazardous waste fuel fired in a boiler of which EPA is aware was 43 percent. Predicted ground level concentrations of HCl also did not exceed the reference air concentrations.

D. Exemption of Associated Storage

Hazardous waste fuel storage practices prior to burning vary from site to site. Many facilities burning relatively large quantities of hazardous waste fuels hold the fuels in a storage system and then pump the waste fuels through a dedicated line into the combustion zone of the boiler. Other facilities mix hazardous waste fuels with other fuels (typically virgin fuel oil) in a storage/mixing tank prior to burning the blended material. These tanks are not feasibly emptied of hazardous waste every 90 days and so are in most cases ineligible for the generator accumulation provisions in § 262.34.

Under the rule being proposed today, facilities storing unmixed hazardous waste fuels would be responsible for complying with all applicable standards for the storage of the hazardous waste fuel. Owners and operators that are eligible for the small quantity burner exemption and who mix toxic hazardous waste fuels with other fuels would, however, be exempt from the storage standards after such mixing. The basis for this exemption is discussed below.

The Agency is proposing an exemption for storage of such storage/mixing tanks (for small quantity burners) in order for the *de minimis* exemption in Section 3004(q)(2)(B) to have practical application. Congress evidently envisioned a class of facilities capable of burning small amounts of hazardous wastes safely absent regulation, and viewed such burning as a superior means of managing these small amounts of waste. Furthermore, assuming that *de minimis* quantity

waste storage is conducted safely, the Agency assumes that Congress also envisioned exemption of the storage since permitting storage would discourage safe on-site burning just as much as regulating the burning itself.

We believe that storage of *de minimis* amounts of hazardous wastes mixed with virgin fuels would pose no significant incremental risks over storage of virgin fuels. The monthly volumes of hazardous waste fuel covered by the *de minimis* exemption, for example, represent less than 0.1 percent of the fuel flow rate through these tanks. Under these circumstances, we think the statutory exemption can reasonably be read to encompass this limited class of storage practices as well.

We note further that the Agency is studying systematically other situations where hazardous waste containing mixtures may not be appropriately subject to regulation, and intends to issue comprehensive rules addressing the issue generically. It appears to us justifiable to address the question for the limited class of burning facilities in advance of other types of situations because Congress has singled out small quantity burning facilities for exemption where appropriate. We note further that to the extent these *de minimis* waste-virgin fuel tanks are underground storage tanks (as defined in section 9001(1)), they would be subject to regulation under Subtitle I because they contain petroleum.

VIII. Regulation of Combustion Residuals

Residuals generated by the combustion of hazardous waste in boilers and individual furnaces include bottom ash, fly ash (collected particulates), scrubber water and blast furnace slag. As discussed below, although most residuals are exempt from regulation, some are subject to regulation either by virtue of the "derived-from" rule of § 261.3(c)(2) (i.e., residues generated by the treatment of listed hazardous waste remain hazardous waste until delisted) or because they exhibit a characteristic of hazardous waste identified in Subpart C of Part 261.

We are not proposing today to revise the regulation of combustion residuals. We are, however, proposing an interpretation of how residuals would be regulated when generated by industrial furnaces involving extraction, beneficiation, and processing of ores and minerals (and cement kilns). The following discussion summarizes the current situation and the basis for the proposed interpretation.

A. Residuals from Boilers

Residuals generated primarily by the combustion of fossil fuels are not RCRA hazardous waste. See § 261.4(b)(4). As discussed at 50 FR 49190 (November 29, 1985), the Agency has interpreted this exclusion to apply to boilers cofiring hazardous waste with fossil fuel as follows: (1) residuals are exempt if the hazardous waste is cofired with coal and the coal provides at least 50% of the boiler's fuel requirement on a volume or heat input basis, whichever results in the larger volume of coal; and (2) residuals are not exempt if the hazardous waste is cofired with oil or gas, or with coal where the coal provides less than 50% of the boiler's fuel requirements. The Agency has taken this approach because when hazardous waste is cofired with large volumes of coal, any contaminants from the hazardous waste would be largely diluted by coal ash. This may not be the case with oil or gas combustion given low volumes of ash generally produced by combustion of these fuels.

Residuals that are not exempt are hazardous waste if the hazardous waste burned contains (or is derived from) a listed hazardous waste, or if the residual exhibits a characteristic of hazardous waste. If the residual is hazardous by virtue of the "derived-from" rule, an owner or operator can petition the Administrator under provisions of § 260.20 to demonstrate that the residual no longer meets the criteria for listing and should be "delisted."

After considering the limited data available on the carryover of constituents from the hazardous waste to the residuals,[62] the Agency is not proposing to change the interpretation discussed above. The Agency, however, specifically requests data on the organic constituents of boiler residuals attributable to burning hazardous waste.

B. Residuals from industrial furnaces

The residuals from most industrial furnaces involved in burning hazardous waste are not RCRA hazardous waste. Residuals from blast furnaces, primary smelting furnaces, light-weight aggregate kilns, and lime kilns are exempt under the exemption provided by § 261.4(b)(7) for solid waste generated by the beneficiation and processing of ores and minerals. Cement kiln dust waste is exempt under § 261.4(b)(8).

These regulatory provisions implement RCRA section 3001(b)(3)(A)(ii)–(iii). These provisions exclude from Subtitle C regulation wastes from certain processes, namely from the extraction, beneficiation, and processing of ores and minerals, and from cement kilns. In evaluating the burning processes that are encompassed by the exclusion, the natural focus of inquiry is on the materials processed in the industrial furnace: are they ores or minerals (e.g., limestone, shale)? If not, what are the percentages of other materials (i.e., nonores or nonminerals such as solid or hazardous wastes) burned, and are they sufficient to indicate that the furnace is essentially engaged in a different type of process? Put another way, the ultimate question is whether the industrial furnace is engaged in a process whose wastes are excluded from regulation, and the question is answered by examining the types and proportions of materials actually being processed.

Under this logic, the Agency views these statutory provisions as applying in the following ways when an industrial furnace processing an ore or mineral or generating cement kiln dust waste also burns a hazardous waste. First, if the device is burning the hazardous waste solely for energy recovery, the Agency in all cases considers the residues to be from processing an ore or mineral (or to be cement kiln dust waste) and hence excluded. This is because the hazardous waste fuels are not being processed directly, in the sense of contributing any material values to the product being produced by the device. Consequently, the device is processing an ore or mineral (or producing cement) and thus generating an excluded waste. In this regard, we note that Congress in section 3004(q) indicated specifically that the new RCRA waste-as-fuel provisions do not affect regulatory determinations under section 3001(b)(3). See also 50 FR 49190 n. 89 (Nov. 29, 1985) noting that these residues remain excluded.

When one of these devices burns a hazardous waste for material recovery, the analysis differs somewhat. This is because the wastes are actually being processed. At some point, therefore, the device would no longer be considered to be processing an ore or mineral if the greater volume of material feed is a hazardous waste (or other secondary material). Thus, if a majority of material feed processed in a device is not an ore or mineral (for cement kilns, limestone or shale), then resulting residues are not deemed to be from processing an ore or mineral (e.g., a cement kiln dust waste). An example would be a smelting furnace which burns secondary materials (rather than ore concentrate)

[62] Accurex Corp., *Engineering Assessment Reports: Hazardous Waste Cofiring in Industrial Boilers*. August 1984; Accurex Corp., *Hazardous Waste Cofiring in Industrial Boilers Under Nonsteady Operating Conditions*. August 1986.

as the majority of its feedstock. In fact, EPA has consistently taken the position that wastes from secondary smelting do not qualify for the exclusion. See 50 FR 40293 (October 1985).

Finally, we caution that these principles do not apply when a device burns wastes to destroy them, or where destruction is a dominant purpose of burning. Such a device would not be performing the type of process indicated in section 3001(b)(3), but would really be incinerating wastes. (Cf. existing § 264.340(a)(2) which states that industrial furnaces and boilers burning hazardous wastes to destroy them operate as incinerators and are subject to the same standards.) For example, if a cement kiln were to burn hazardous waste fuels in quantities greatly in excess of those needed to fire the kiln, the device could not be deemed to be functioning to produce cement but to destroy hazardous waste, and residues would not be excluded. If a blast furnace or aggregate kiln were to burn large volumes of hazardous waste which did not contribute to the production of iron or aggregate, residues from burning would not be excluded. Relevant factors in making the determination include the revenues derived from burning wastes (either solid or hazardous) versus producing a product, the types and range of wastes burned in the device and what they contribute to the process, and the purpose for which the device is held out to the public.

The Agency solicits comment on these interpretations. If commenters disagree with any point, they are requested to describe particular situations that they believe the Agency's reading fails to accommodate. EPA notes as well that alternative readings of section 3001(b)(3) are possible. One could argue, for example, that Congress contemplated a temporary exclusion for wastes whose character was determined by the processing of an ore or mineral. To the extent an industrial furnace processed wastes along with ores or minerals and these processed wastes determined the character of the resulting waste residues, one thus could maintain that Congress did not intend to exclude the residual wastes. The Agency indeed has expressed this position with regard to wastes from utility boilers cofiring oil or gas and hazardous wastes (50 FR 49190 and n. 87–89 (Nov. 29, 1985) citing 1981 correspondence between the Director of the Office of Solid Waste and the Utility Solid Waste Activities Group), where we reasoned that resulting fly ash would reflect the nonfossil fuel component burned in the boiler. Applied to an industrial furnace, if furnace residues exhibited a hazardous waste characteristic when processing non-ore or mineral feed, but did not when processing only ores and minerals, those residues could be considered to be non-exempt hazardous wastes. Although this reading may reflect the literal statutory language less well than the one given above, we solicit comment on this possible approach. Commenters likewise are requested to describe particular situations whenever possible.

Part Four: Interim Status Standards and Permit Procedures

This part describes the procedures for issuing permits for facilities that operate in conformance with the proposed controls discussed in Part Three. This part also describes standards that would apply to existing facilities until they are closed or a permit is issued.

I. Interim Status Standards

Interim status standards apply to owners and operators of boilers and industrial furnaces burning hazardous waste on or before the effective date of these standards. Such boilers or industrial furnaces are referred to as being "in existence." A boiler or industrial furnace is also considered to be in existence if it is under construction that would enable it to burn hazardous waste on or before the effective date of these standards. A facility has commenced construction if it meets the conditions provided by paragraphs (1) and (2) of the definition of "Existing hazardous waste management (HWM) facility" in 40 CFR 260.10 and 270.2. Those conditions require that all permits necessary to begin physical construction be obtained, and that either continuous physical construction be underway or that the owner or operator be under contractual obligations for physical construction that cannot be cancelled or modified without substantial loss. We also note that, if the facility already has other units which have interim status, § 270.70(c)(2) allows addition of new treatment processes (e.g., a boiler existing at a storage facility) where necessary to comply with new Federal regulations. Under existing rules, however, such changes shall not amount to reconstruction of the facility. See § 270.70(e). EPA is proposing to amend the rules to state that this reconstruction ban does not apply to situations where changes in interim status are needed to comply with new Federal rules. EPA, thus, intends that the reconstruction ban not apply where boilers and industrial furnaces operate at existing interim status facilities.

Interim status standards apply to existing facilities until they are closed under the provisions of those standards or until a permit is issued.

EPA is proposing to apply the following standards to boilers and industrial furnaced burning hazardous waste during interim status: (1) General (nontechnical) facility standards; (2) operating requirements, including metals and hydrogen chloride standards and carbon monoxide limits; (3) monitoring and inspection requirements; (4) waste analysis and closure requirements; and (5) prohibition on burning dioxin-containing waste. The basis for these provisions is discussed below.

A. General Facility Standards

EPA is proposing to apply the existing nontechnical interim status standards applicable to hazardous waste incinerators and other storage, treatment, and disposal facilities to boilers and industrial furnaces. Those standards are necessary to ensure that general facility operations are conducted in a safe manner by technically and financially competent owners and operators. The standards are codified in Subparts A, B, C, D, E, G, and H of Part 265 and address nontechnical aspects of safe operations such as facility security; inspections; personnel training; emergency equipment, plans, and procedures; use of the manifest system; closure; and financial responsibility requirements. The standards in those subparts relevant to combustion devices are incorporated by reference in today's proposed rule in § 266.35–1(d).

B. Operating Requirements

EPA is proposing that two substantive standards apply during interim status: (1) metals and hydrogen chloride controls; and (2) flue gas carbon monoxide limits. The basis for these requirements is discussed below.

1. *Metals and hydrogen chloride standards.* To minimize the effects of metals and hydrogen chloride emissions on affected populations, these proposed regulations would require facilities under interim status to meet the standards set forth in § 266.34–4(3) (b) and (c). The facility may meet any one of the Tier I–III standards. But the facility must meet the chosen standard within 12 months of final promulgation of this rule. (The Agency believes that it is reasonable to allow 12 months for compliance with the metals and hydrogen chloride (and CO) standards given that significant physical modification (e.g., improvements to emissions control devices) may be required.) In addition, the owner or operator of a facility may apply for risk-

based standards under Tier IV. However, if a permit applicant chooses this route, he must submit his Part B application along with the risk assessment for his site-specific standards within 6 months of final promulgation of this rule. The approach required for the risk assessment is discussed elsewhere in today's proposal and will be included in the Risk Assessment Guideline. Site specific air dispersion modeling will be required for the Tier IV standard as well as emissions testing, where applicable (i.e., to obtain credit for air pollution control equipment).

The owner or operator must conduct sampling and analysis as necessary and, under Tier IV, emissions testing to show that he is meeting the metals and HCl standards, and maintain such records so as to show his compliance with the standards until a permit is issued.

2. *Carbon monoxide limits.* To ensure that boilers and industrial furnaces burning hazardous waste during interim status operate at high combustion efficiency, we are proposing to require compliance with flue gas carbon monoxide (CO) limits and to prohibit burning hazardous waste during start-up and shut-down. The rationale and basis for these requirements has been discussed in section II.B of Part Three of this preamble. The CO limits applicable to permitted facilities would also apply to interim status facilities within 12 months of promulgation of this rule. Thus, continuous monitoring of CO and oxygen flue gas levels would be required. We believe that limiting CO levels will, in most cases, ensure that the device is achieving 99.99 percent destruction efficiency and is minimizing emissions of incompletely burned hydrocarbons. A 12-month effective date is provided to enable the owner and operator to install and shake-down the CO monitoring/recording equipment.

We are also proposing optional standards for boilers that would be permitted without a trial burn. These standards are discussed in section II–C of Part Three of this preamble and would be codified in proposed § 266.34–6(b)(4) of the permit standards and proposed § 266.35–3(c) of the interim status standards. Not only would boilers operated under these special conditions be permitted without a trial burn to demonstrate conformance with the DRE standard,[63] but permit officials could consider the fact that such boilers are already operating virtually in compliance with these permit standards in setting priorities for permitting interim status facilities. To determine whether boilers are operating in conformance with the optional standards, permit officials can request written certifications from boiler owners and operators submitting Part A permit applications.

The Agency considered whether boilers for which emissions testing would not be required under the permit standards could be deemed automatically to have a permit without complying with the formal permit procedures (e.g., submission of Part A and Part B permit applications; opportunity for public hearings). Boiler owners and operators could avoid emissions testing under today's proposed rules by: (1) Complying with the special operating conditions to ensure conformance with the performance standards for the control of organic emissions; and (2) complying with the metals and chlorine waste specification levels or calculated mass feed rate limits to ensure compliance with the metals and chlorine performance standards. Given that such boilers are already in compliance with the technical permit standards, they would be in "interim status" in name only. If the Agency could be sure that such owners and operators were, in fact, complying with the standards, the formal permitting process would be unnecessary and such facilities could be considered automatically to have a permit.

Although the special operating conditions proposed today in lieu of organic emissions testing have not been developed to make them completely self-implementing, we believe they could be. Unfortunately, however, the Agency does not believe that RCRA provides the statutory authority to waive formal permitting procedures for facilities that would be subject to substantive controls. The Agency interprets RCRA as unambiguously requiring formal permitting of regulated treatment, storage, and disposal facilities. Permits could be waived only when a facility is unconditionally exempt from regulation or exempt with minimal substantive conditions. Corrective action for releases of hazardous constituents from solid waste management units is tied directly to the permitting process as well. Thus, we believe that boilers operating under the proposed standards in lieu of emissions testing require formal permitting because they must comply with substantive controls. (On the other hand, we believe that the proposed conditional exemption for burners of small quantities of hazardous wastes meets the test of minimal substantive controls—and moreover is directly sanctioned by statute. Thus, we believe that an exemption from the permit procedures for small quantity burners is consistent with the intent of HSWA.)

C. Monitoring and Inspections

Like permitted facilities, facilities in interim status would be required to install, operate, and maintain, within 12 months of this rule's promulgation, continuous flue gas monitors for carbon monoxide (CO) and oxygen in accordance with *Guideline for Continuous Monitoring of Carbon Monoxide at Hazardous Waste Incinerators, Appendix D*, PES, January 1987 (Draft Report).

In addition, we are proposing to require other monitoring and inspections virtually identical to that required for interim status incinerators under § 265.347. Existing instruments that relate to combustion and emission control would have to be monitored at least every 15 minutes and appropriate corrections to maintain steady-state combustion conditions and emission control would have to be made immediately. Instruments that relate to combustion and emission control would normally include those measuring hazardous waste feed rate, feed rate of other fuels, feed rate of industrial furnace feedstocks, hazardous waste firing system pressure, scrubber water flow rate and pH, electrostatic precipitator spark rate, and fabric filter pressure drop.

The boiler or industrial furnace and associated equipment (pumps, valves, pipes, etc.) would also have to be subjected to thorough visual inspection at least daily when hazardous waste is burned, for leaks, spills, fugitive emissions, and signs of tampering. It should be noted that some of these associated devices would be "equipment in VHAP (volatile hazardous air pollutant) service" within the meaning of EPA's recent proposal to control air emissions at certain RCRA facilities, 52 FR 3748 (Feb. 5, 1987), and would be controlled by the standards proposed in that rule.

Finally, the emergency hazardous waste feed cutoff system and associated alarms would have to be tested at least weekly when hazardous waste is burned to verify operability, unless the owner or operator has written documentation that weekly inspections will unduly restrict or upset operations and that less

[63] No emissions testing would be required if the metals and chlorine waste specification levels or calculated allowable feed rates were not exceeded. See proposed §§ 266.34–6(c) (2) and (3) and 266.34–6(d) (2) and (3).

frequent inspections will be adequate. At a minimum, however, operational testing would be required at least monthly.

D. Waste Analysis and Closure

In addition to the general waste analysis requirements of § 265.13 and the general closure requirements of §§ 265.111–265.115, all of which would be incorporated in these standards by reference, we are proposing additional requirements specific to burning hazardous waste in boilers and industrial furnaces. These specific requirements are similar to those required for incinerators operating under interim status. See §§ 265.341 and 265.351.

Owners or operators of boilers and industrial furnaces burning hazardous waste would have to analyze the waste sufficiently to determine the type of pollutants that might be emitted. At a minimum, the analyses must determine the concentrations of organic and inorganic compounds (including metals) identified in Appendix VIII that may reasonably be expected to be in the waste, and chlorine in the waste, on an as-fired basis (i.e., either in the waste or after any blending with other wastes or fuels), unless the owner or operator has written, documented data that show that the element is not present. Analyses of these elements would be required either because their emissions would be controlled under the proposed standards or because the permit writer could use the authority of HSWA Section 3005(c) to control emissions as necessary to protect public health and the environment. In addition, the heating value of the waste must be determined to enable the owner and operator to consider how completely the material may burn considering the waste firing rate, firing system, waste/air mixing, combustion gas temperatures, and retention time at those temperatures. Finally, the owner or operator would be required to analyze sufficiently any hazardous waste he has not previously burned in his boiler or industrial furnace to enable him to establish steady-state (normal) operating conditions and to comply with the stack gas carbon monoxide (CO) and metals and HCl standards provided by proposed § 266.35–3.

With respect to closure, the owner or operator would be required to remove all hazardous waste and hazardous waste residues (including, but not limited to, ash, scrubber water, and scrubber sludges) from the boiler or industrial furnace site.

E. Prohibition on Burning Dioxin-Containing Wastes

Hazardous waste containing or derived from any of the following dioxin-containing wastes could not be burned in a boiler or industrial furnace operating under interim status: EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027. Burning these dioxin-containing wastes during interim status is prohibited because boilers and industrial furnaces could not be assumed to achieve the 99.9999 percent DRE (Destruction and Removal Efficiency) required for these wastes to protect human health adequately under the permit standards. The prohibition on burning dioxin-containing wastes would be codified in proposed § 266.35–1(c), and the requirement for permitted facilities to demonstrate 99.9999 percent DRE for these wastes would be codified in proposed § 266.34–4(a)(1)(iii).

F. Exemption of Small Quantity On-Site Burners

The burning of extremely small quantities of hazardous waste (e.g., 7 gallons per month for small boilers and up to 300 gallons per month for large boilers) absent regulatory control (i.e., assuming poor combustion conditions) poses negligible risks. See discussion in Section V of Part Three of this preamble. Therefore, a conditional exemption for burners of small quantities of hazardous waste generated on-site would be codified in proposed § 266.35–1(b)(1) (interim status standards), and § 266.34–1(b)(permit standards). The exemption would be conditioned as follows: (1) The wastes must be generated on-site; (2) the total quantity of waste burned in a calendar month as a function of boiler size and the quantity burned at any point in time must not exceed 1% of boiler feed on a heat or volume input basis; and (3) the waste must not contain or be derived from dioxin-containing wastes.

II. Permit Procedures

Boilers and industrial furnaces burning hazardous waste would be subject to the permit procedures of Part 270 for hazardous waste treatment, storage, and disposal facilities. In particular, existing facilities would be required to submit Part A of the permit application containing the information identified in existing § 270.13 within six months of the effective date of final rules promulgated subsequent to today's proposal. When requested by permit officials, owners and operators of interim status facilities must submit Part B of the permit application. General information on the contents of Part B of the application is provided in existing § 270.14. Specific information for Part B of the application for boilers and industrial furnaces is provided in proposed § 270.22. In addition, information on the special types of permits for boilers and industrial furnaces and trial burn procedures is provided in proposed § 270.65.

New facilities would be required to submit Part A and Part B of the permit application at least 180 days before physical construction is expected to commence. See existing § 270.1(b).

Proposed §§ 270.22 and 270.65 are patterned after the permit procedures for hazardous waste incinerators in §§ 270.19 and 270.62. The proposed sections are discussed below.

A. Proposed § 270.22: Specific Part B Information

Proposed § 270.22 provides specific information requirements for Part B of the permit application. Paragraph (a) requires a trial burn to demonstrate conformance with the performance standards, unless the documentation to support the waiver of a trial burn required in proposed paragraph (c) is provided. Paragraph (b) requires owners and operators required to conduct a trial burn to submit a burn plan or the results of a trial burn in accordance with proposed § 270.65.

Paragraph (c) requires documentation to support a waiver of a trial burn under the following exemptions:

1. *Boilers operated under the special conditions for conformance with the organic emission standard.* When seeking the exemption for a trial burn to demonstrate that the boiler is in conformance with the organic emission standard in proposed § 266.34–4(a), the owner or operator must submit documentation that the boiler operates in conformance with the special conditions provided by proposed § 266.34–6(b)(4).

2. *Waiver of a trial burn to demonstrate conformance with the metals emission standard.* When seeking the exemption for emissions testing to demonstrate conformance with the metals emissions performance standards in proposed § 266.34–4(b), the owner or operator must either: (a) Document by analysis that the hazardous waste itself or, as fired, (i.e., after any blending with other wastes or fuels) does not contain metals at levels higher than allowed in the Tier I metals specification in proposed § 266.34–4(b)(1); or (b) document by analysis of the hazardous waste, other fuels, and industrial furnace feedstocks and by records of operating procedures (for

existing facilities) or by planned operating procedures (for new facilities) that the metals concentrations in the waste will not exceed the Tier II levels allowed by the equations in proposed § 266.34–4(b)(2), considering the metals levels in the hazardous waste itself or, as fired, other fuels, and industrial furnace feedstocks, and the feed rate of the hazardous waste, other fuels, and industrial furnace feedstocks.

If neither the Tier I nor Tier II standards are met for a metal, emission testing to demonstrate conformance with the metals performance standards is required for all metals.

3. *Waiver of a trial burn to demonstrate conformance with the HCl emission standard.* When seeking the exemption for emissions testing to demonstrate conformance with the hydrogen chloride (HCl) emissions performance standard in proposed § 266.34–4(c), the owner or operator must either: (a) Document by analysis that the chlorine content of the hazardous waste itself, or as fired, does not exceed the Tier I level allowed in the chlorine specification in proposed § 266.34–4(c)(1); or (b) document by analysis of the hazardous waste, other fuels, and industrial furnace feedstocks and by records of operating procedures (for existing facilities) or by planned operating procedures (for new facilities) that the allowable Tier II chlorine concentration in the waste computed by the equation in proposed § 266.34–4(c)(2) will not be exceeded, considering the chlorine level in the hazardous waste, as fired, other fuels, and industrial furnace feedstocks, the heating value of the hazardous waste and other fuels, and the feed rate of the hazardous waste, other fuels, and industrial furnace feedstocks.

4. *Data in lieu of a trial burn.* The owner or operator of a boiler or industrial furnace may seek an exemption from the trial burn by providing information from trial or operational burns of similar boilers or industrial furnaces burning similar waste under similar conditions. The Director shall approve a permit application without a trial burn if he finds that the hazardous wastes are sufficiently similar, the devices are sufficiently similar, and the data from other trial burns are adequate to specify (under proposed § 266.34–6) operating conditions that will ensure conformance with the performance standards in proposed § 266.34–4.

The information requirements to support this exemption are patterned after the existing requirements for hazardous waste incinerators submitting data in lieu of a trial burn. See existing § 270.19(c). The requirements for boilers and industrial furnaces would, however, require information on the metals and chlorine levels of materials feed to the devices, and design and operational information on metals and HCl flue gas control equipment to ensure conformance with the proposed metals and HCl emission standards.

B. Proposed § 270.65: Special Forms of Permits

Proposed § 270.65 establishes special forms of permits for new boilers that will be operated under the special conditions for waiver of the trial burn and for all other new boilers and new industrial furnaces where a trial burn is required. This section also establishes trial burn procedures. Finally, this section discusses special procedures for permitting existing facilities. These provisions are discussed below.

1. *Permits for new boilers exempt from the trial burn requirements.* Owners and operators of boilers are exempt from the requirement to conduct a trial burn provided that the boiler operates as follows: (a) the boiler must operate in conformance with the special conditions provided by proposed § 266.34–6(b)(4) to ensure conformance with the performance standard for organic emissions; and (b) the boiler must burn hazardous waste that either meets the Tier I metals and chlorine specification levels of proposed §§ 266.34–4 (b)(1) and (c)(1) or meets the Tier II limits provided by proposed §§ 266.34–4 (b)(2) and (c)(2). These requirements in aggregate are termed "Special Operating Requirements."

Proposed § 270.65(b) establishes the following permits for boilers operated under the Special Operating Requirements: Predemonstration, Demonstration, and Final Permits. A Predemonstration Permit would cover the period beginning with initial introduction of hazardous waste into the boiler and extend for the minimum time required, not to exceed a duration of 720 hours operating time [64] when hazardous waste is burned to bring the boiler to a point of operation readiness to conduct a demonstration that the boiler can operate under the Special Operating Requirements. In practice, the primary purpose of this period is to determine whether the hazardous waste firing system and boiler combustion controls can be operated to achieve flue gas carbon monoxide levels that meet the limits in proposed § 266.34–4(a)(2) and that are incorporated by reference in proposed § 266.34–6(b)(4)(v). During this period, the boiler must be operated in conformance with the Standard Operating Requirements. The Director may extend the period of the Predemonstration Permit once for up to 720 additional hours when good cause for the extension is demonstrated by the applicant. Any such extension would be handled as a minor modification of permits under existing § 270.42.

The Demonstration Permit covers the period immediately after completion of the predemonstration period and extends only for the minimum time sufficient to allow sample analysis, data computation, and submission of the results by the applicant demonstrating conformance with the Standard Operating Requirements. During this period, the boiler must be operated in conformance with the Standard Operating Requirements. The Demonstration Permit is an extension of the Predemonstration Permit and constitutes a minor modification of permits under existing § 270.42.

After successful completion of the demonstration period, the boiler operates under a Final Permit in conformance with the Standard Operating Requirements. In the Final Permit, the Director will specify changes to the limitations, as appropriate, on the metals and chlorine content, heating value, and feed rates of the hazardous waste, other fuels, and industrial furnace feedstocks, and requirements for the operation and maintenance of emission control equipment necessary to ensure compliance with the Standard Operating Requirements. The Final Permit is an extension and modification to the demonstration permit and constitutes a minor modification of permits under existing § 270.42.

2. *Permits for new boilers and industrial furnaces subject to a trial burn.* Proposed § 270.65(c) establishes the following permits for new boilers and industrial furnaces required to conduct a trial burn: Pretrial Burn Permit, Trial Burn Permit, Post-Trial Burn Permit, and Final Permit. A Pretrial Burn Permit would cover the period beginning with initial introduction of hazardous waste into the boiler or industrial furnace and extend for the minimum time required, not to exceed a duration of 720 hours operating time when hazardous waste is burned, to bring the device to a point of operation readiness to conduct a trial burn. The Director may extend duration of this operational period once, for up to 720 additional hours, at the request of the applicant when good cause is shown.

[64] This is the same period of time allowed for start-up and shake-down of hazardous waste incinerators under existing § 270.62(a) prior to conducting a trial burn.

Applicants must submit a statement with Part B of the permit application that suggests the conditions necessary to operate in conformance with the performance standards of proposed § 266.34–4. This statement should include, at a minimum, restrictions on hazardous waste constituents including arsenic, cadmium, chromium, lead, and chlorine, hazardous waste heating value and feed rates, and the operating parameters identified in proposed § 266.34–6. The Director will review this statement and other relevant information and use his engineering judgment to specify requirements for this period sufficient to meet the performance standards of § 266.34–4. A Trial Burn Permit covers the period during the conduct of the trial burn. For the duration of the trial burn, the Director must establish conditions in the permit for the purposes of determining feasibility of compliance with the performance standards of proposed § 266.34–4 and of determining adequate operating conditions under proposed § 266.34–6. The procedures for developing and conducting a trial burn program already in place for hazardous waste incinerators in § 270.62(b) were used as a guide to develop proposed § 270.65(c)(2). The applicant must propose a trial burn plan with Part B of the application that includes: (1) Comprehensive analysis of each hazardous waste, as fired; (2) a detailed engineering description of the boiler or industrial furnace; (3) a detailed description of sampling and monitoring procedures; (4) a detailed test schedule for each hazardous waste for which a trial burn is planned; (5) a detailed test protocol; (6) a description of, and planned operating conditions for, any emission control equipment that will be used; (7) procedures for rapidly stopping the hazardous waste feed and controlling emissions in the event of an equipment malfunction; and (8) such other information as the Director reasonably finds necessary to determine whether to approve the trial burn plan.

The Director will review the trial burn plan and may require the applicant to supplement this information, if necessary.

Based on the hazardous waste analysis data in the trial burn plan, the Director will specify as trial Principal Organic Hazardous Constituents (POHCs) those constituents for which destruction and removal efficiencies must be calculated during the trial burn. The trial POHCs will be specified by the Director based on his estimate of the difficulty of destruction of constituents in the waste, their concentration or mass in the waste, and for wastes listed in Subpart D of Part 261, the constituents identified in Appendix VII of that part as the basis for listing.

The Director shall approve a trial burn plan if he finds that the trial burn is likely to determine whether the device can meet the performance standards of proposed § 266.34–4, the trial burn itself will not present an imminent health hazard, the trial burn will help him to determine operating requirements to be specified under proposed § 266.34–6, and the operating requirements necessary to ensure conformance with the performance standards cannot reasonably be developed through other means.

The Director shall extend and modify the Pretrial Burn Permit as necessary to accommodate the approved trial burn plan. The permit modification shall proceed as a minor modification according to existing § 270.42.

During each approved trial burn (or as soon after the burn as is practicable), the applicant must make the following determinations: (1) A quantitative analysis of the trial POHCs and arsenic, cadmium, chromium, lead, and chlorine in the hazardous waste; (2) a quantitative analysis of the exhaust gas for the concentration and mass emissions of the trial POHCs; (3) for hazardous waste that is off-specification for arsenic, cadmium, chromium, lead, or chlorine, either a quantitative analysis of the hazardous waste, other fuels, and industrial furnace feedstocks sufficient to demonstrate that the level of the off-specification element in the hazardous waste does not exceed the Tier II limits provided by proposed §§ 266.34–4 (b)(2) or (c)(2), or a quantitative analysis of the exhaust gas for the concentration and mass emission of the regulated metals and HCl, and a computation showing conformance with the Tier III emissions standards in proposed §§ 266.34–4 (b)(3) and (c)(3) or, site-specific dispersion modeling in conformance with the Tier IV procedures provided by proposed §§ 270.22 (d) and (e); (4) a quantitative analysis of the scrubber water (if any), ash residues, and other residues, for the purpose of estimating the fate of the trial POHCs and any metal or chlorine for which emissions testing was used to demonstrate conformance with the emission standards; (5) a computation of destruction and removal efficiency; (6) an identification of sources of fugitive emissions and their means of control; (7) a continuous measurement of carbon monoxide and oxygen in the exhaust gas; and (8) such other information as the Director may specify as necessary to develop the operating conditions required by proposed § 266.34–6 to ensure compliance with the performance standards in proposed § 266.34–4.

The applicant must submit to the Director a certification that the approved trial burn program has been carried out and must submit results of the determinations identified above within 90 days of completion of the trial burn, or later if approved by the Director. All data collected during any trial burn must be submitted to the Director following completion of the trial burn. All submissions must be certified on behalf of the applicant by the signature of the person authorized to sign a permit application or a report under § 270.11.

Until the Final Permit based on the trial burn results can be developed, the Director will use his engineering judgment to extend and modify as necessary the Trial Burn Permit to ensure compliance with the performance standards of proposed § 266.34–4. The development of the Post-Trial Burn permit shall proceed as a minor modification according to existing § 270.42. The duration of the Post-Trial Burn Permit will be only for the minimum period sufficient to allow analysis, data computation, and submission of the trial burn results by the applicant, and review of the trial burn results and modification of the permit by the Director to develop the Final Permit that reflects the trial burn results. The modification of the Post-Trial Burn Permit to develop the Final Permit shall also proceed as a minor modification under existing § 270.42.

3. *Permit procedures for interim status facilities.* Applicants owning or operating existing boilers or industrial furnaces would be permitted under proposed § 270.65(d). Applicants owning or operating interim status boilers that are or will be operating under the Special Operating Requirements [65] for which the trial burn is waived must submit with Part B of the permit application documentation that the boiler is operated in accordance with the Special Operating Requirements. The statement must include, at a minimum, the operating record documenting continuous measurement of carbon monoxide and oxygen in the exhaust gas. Further, if the hazardous waste is off-specification for metals or chlorine, the statement must also include limitations, as appropriate, on the metals and chlorine content, heating value, and feed rates of the hazardous

[65] Boilers operated in conformance with proposed §§ 266.34–6(b)(4), 266.34–4(b) (1) or (2), and §§ 266.34–4(c) (1) or (2).

waste, other fuels, and industrial furnace feedstocks to demonstrate conformance with the proposed Tier II standards provided by §§ 266.34–4 (b)(2) and (c)(2).

Applicants owning or operating industrial or boiler furnaces that will be permitted with a trial burn must prepare and submit a trial burn plan and perform a trial burn as discussed above relative to new facilities.

Part Five: Storage Standards, Halogen Acid Furnaces, and Other Issues

I. Storage Standards

A. Standards for Storage Tanks

Under the Administrative Controls for hazardous waste burners and blenders promulgated on November 29, 1985, and codified in Subpart D of Part 266, EPA subjected existing burner storage facilities, newly regulated by that rule, only to the interim status standards of Part 265. See § 266.35(c)(2). The permit standards of Part 264 were not applied to these storage facilities to avoid two-stage permitting given that today's proposed rules for permitting boiler and industrial furnace facilities was under development at that time. The Agency wanted to avoid requiring a boiler or industrial furnace owner or operator to get a permit for this hazardous waste fuel storage facility and to soon thereafter get another permit (under a promulgation of today's rule) for operation of his boiler or industrial furnace.

Today's rule would, therefore, subject such existing burner storage facilities to the permit standards of Part 264.

B. Proposal To Regulate Hazardous Waste Fuel Blending Tanks

EPA recently issued a clarifying notice indicating that the Agency interpreted existing regulations as requiring hazardous waste fuel blending tanks to be covered by RCRA storage standards. We have decided, however, that the rules could be drafted to make this point more clearly and so have included more precise language in today's proposed regulation. The reason for regulating blending tanks is the same as that underlying the present rules: blending tanks pose the same risks as other hazardous waste storage tanks, posing no types of special consideration that might warrant different regulatory standards. It also makes no sense for EPA to regulate hazardous waste fuels cradle-to-grave but not to regulate fuel blending tanks. Such a regulatory gap has no foundation in environmental policy and invites abuse through facilities evading regulation by claiming that their only activities are fuel blending and consequently that no RCRA storage standards (and attendant permitting standards) apply to them. We are thus proposing to amend the hazardous waste fuel regulations to state explicitly that fuel blending tanks are subject to RCRA storage standards. The comment period on this part of today's proposal is 30 days.

We note that since these rules would regulate all hazardous wastes being burned in boilers and industrial furnaces, there no longer would be any need for the hazardous waste fuel marketer classification in the current rules. Such intermediaries would continue to be regulated as hazardous waste storage facilities and be responsible for complying with applicable administrative requirements such as manifest and recordkeeping responsibilities.

II. Proposed Designation of Halogen Acid Furnaces as Industrial Furnaces

The DOW Chemical Company (DOW) filed a rulemaking petition with EPA on March 31, 1986, in accordance with the provisions of 40 CFR 260.20 requesting EPA to designate their halogen acid furnaces (HAFs) as industrial furnaces. EPA is today proposing to grant the petition by classifying as industrial furnaces those HAFs that meet the criteria discussed below.

A. DOW's Petition

We understand from the petition and subsequent communication with DOW [66] that DOW operates about 27 HAFs that are fire-tube boilers modified to produce hydrogen chloride (HCl) from chlorine-bearing secondary streams by scrubbing HCl from combustion gases. The secondary waste streams typically have a chlorine content of 20 to 70 percent and an as-fired heating value of approximately 9,000 Btu/lb. Thus, the secondary streams are highly chlorinated and have substantial heating value.[67] The HAFs are located on the site of DOW's chemical manufacturing operations and the secondary materials burned are generated on-site.

Approximately half of the HAFs produce and export steam and meet EPA's definition of a boiler under § 260.10. Those HAFs that meet the definition of a boiler would be regulated as boilers. The remaining HAFs, although modified fire-tube boilers, do not generate steam and do not meet EPA's definition of a boiler. EPA is proposing to classify the nonboiler HAFs as industrial furnaces for the reasons discussed below.

B. Bases for Classification as an Industrial Furnace

EPA has defined an industrial furnace at § 260.10 as any of the specifically-designated enclosed devices that are integral components of a manufacturing process and that use controlled flame devices to accomplish recovery of materials or energy. Eleven types of devices have been designated as industrial furnaces to date. The definition also provides criteria for adding devices to the list.

EPA believes that DOW's nonboiler HAFs [68] are integral components of a manufacturing process and that they meet two of the criteria for designation as an industrial furnace.

1. *HAFs are integral components of a manufacturing process.* Industrial furnaces normally process raw materials, and, thus, there is no question that they are integral components of a manufacturing process. For the reasons presented below, EPA believes that DOW's HAFs are also integral components of a manufacturing process even though they process secondary streams: (1) The HAFs are located on the site of the manufacturing process (i.e., production of organic chemicals) and the only secondary streams they process are generated by that manufacturing process; (2) the HCl produced is a *bona fide* product because it has a HCl content of 6–20 percent [69]; and (3) the HCl product is used on-site in the manufacturing process.

2. *HAFs recover materials and energy.* EPA believes that DOW's HAFs recover materials and energy. Production of HCl (i.e., a 6–20 percent HCl concentrate solution) from the combustion of chlorine-bearing secondary materials constitutes materials recovery in the context of designation as an industrial furnace. We note, however, that for the purposes of determining the applicability of RCRA regulations to the process, the secondary streams should

[66] Letter from Byron Cary, DOW, to Marcia E. Williams, EPA, dated July 8, 1986; letter from Marcia E. Williams, EPA, to Byron Cary, DOW, dated August 28, 1986.

[67] EPA considers wastes with more than 5,000–8,000 Btu/lb heating value to have substantial heating value and may be legitimately burned for energy recovery in boilers and industrial furnaces. See Section VI of Part Two of this preamble.

[68] For the remainder of this discussion, the term HAF refers to the nonboiler HAFs.

[69] The HCl content of the effluent from wet scrubbers used to control HCl emissions from the incineration of chlorine-bearing waste is normally on the order of 1 percent or less. Such low HCl content scrubber water is not considered a *bona fide* product for purposes of designation as an industrial furnace even if the scrubber water is beneficially used in a manner that specifically relates to its HCl content.

be more precisely considered to be used as an ingredient in the production of the HCl product. The implication of this issue is discussed later in this section.

The HAFs also accomplish energy recovery in the context of determining the applicability of RCRA regulations. The secondary materials are burned partially for energy recovery because substantial, usable heat energy is released by the materials during combustion. The materials typically have an as-fired heating value of approximately 9,000 Btu/lb, and the heat released results in the thermal degradation of chlorinated organic compounds to form HCl. Although energy recovery in a boiler under EPA's definitions is characterized by the recovery and export of energy, energy recovery in an industrial furnace need not involve such recovery and export of energy. Rather, the test for energy recovery in industrial furnaces is based on the burning of materials with substantial heating value (i.e., greater than 5,000 Btu/lb) in a manner that results in the release of substantial usable heat energy. See 50 FR 49171–49174 (November 29, 1985).

3. *HAFs meet industrial furnace criteria.* EPA has established criteria in § 260.10 for designating additional devices as industrial furnaces. Devices can be designated as industrial furnaces on the basis of one or more of the criteria. EPA believes that DOW's HAFs meet two of the criteria as described above (see a and b) and, thus, is proposing to classify them as industrial furnaces.

DOW's HAFs appear to be designed and used primarily to accomplish the recovery of material products. The HAFs are specially designed and operated fire-tube boilers (that are not operated to produce steam). Their design features enable them to accept highly-chlorinated feedstocks without unacceptable corrosion and to maximize HCl production and recovery. DOW has patents on its HAFs as evidence that the HAFs are specially designed and differ from typical incinerators.

The HAFs can also be considered to burn secondary materials as ingredients in an industrial process to make a material product. As discussed above, chlorine-bearing secondary streams from chemical manufacturing operations are burned on-site to produce an HCl product for use in the manufacturing operation.

C. Proposed Designation

EPA is proposing to add a new category of industrial furnaces to read as follows: Halogen Acid Furnaces for the production of acid from halogenated secondary materials generated at chemical production facilities where the furnace is located on-site and the acid product has a halogen acid content of at least 6 percent.

The designation limits the classification to those devices used on-site by a chemical production facility to process its halogenated secondary streams and where the acid product contains at least 6 percent halogen acid to distinguish clearly between industrial furnaces used to produce *bona fide* acid product and incinerators, either off- or on-site, used to destroy halogenated waste and equipped with halogen emissions removal devices. Such emission control devices, such as spray towers and venturi scrubbers, produce halogen acid-bearing scrubber water. The halogen acid content of such scrubber water, however, would be substantially less that the 6 percent proposed minimum achieved by specially designed and operated acid production operations. Thus, such halogenated waste incinerators equipped with wet scrubbers could not meet the proposed definition for the HAFs even if the halogen acid-bearing scrubber water were claimed to be a product.

EPA specifically requests comments on whether the proposed definition of Halogen Acid Furnaces is: (1) Restrictive enough to distinguish clearly between furnaces used for *bona fide* acid production and incinerators equipped with conventional wet scrubbers for acid gas emissions control; and (2) not so restrictive as to preclude *bona fide* acid production operations from being classified as industrial furnaces.

EPA also requests information on the burning in HAFs of wastes to produce halogen acids other than HCl (e.g., HBr), including whether the proposed HAF definition is appropriate for those devices and whether the proposed controls would adequately protect public health and the environment.

D. Regulations Applicable to HAFs

HAFs burn halogenated secondary materials for the production of halogen acids. Thus, the secondary materials are used as an ingredient in an industrial process and would not be a solid waste under the provisions of § 261.2(e)(1)(i) unless: (1) The materials were also burned partially for energy recovery (see § 261.2(e)(2)(ii)); or EPA determines the secondary streams are inherently waste-like and adds the secondary streams to the list of inherently waste-like materials under § 261.2(d) that are solid wastes when recycled in any manner.

As discussed above, DOW's secondary streams are burned partially for energy recovery because the materials have substantial as-fired heating value (9,000 Btu/lb) and substantial, useful energy is released by the combustion of the materials. The energy is used to produce halogen acid from halogenated hydrocarbons. Therefore, DOW's HAFs would be subject to today's proposed rules for industrial furnaces.

In addition, EPA considers DOW's secondary streams to be inherently waste-like and subject to listing under § 261.2(d) as a material that is a solid waste when recycled in any manner or certainly in the manner utilized by DOW. Listed wastes burned in DOW's HAFs include EPA Hazardous Waste Nos. F002, F024, K016, K017, and K020. These wastes not only are typically disposed of, but contain high concentrations of Appendix VIII constituents not normally found in raw materials used in acid production. EPA is, however, not proposing today to list DOW's secondary streams as inherently waste-like under § 261.2(d). Given that the materials are burned partially for energy recovery, the materials are solid waste, and because they are listed or identified under Part 261 as hazardous waste, DOW's HAFs would be subject to today's proposed rules for industrial furnaces. Thus, there is no need to undertake a designation under § 261.2(d) at this time.

III. Proposed Classification of Coke and By-Product Coal Tar Containing Tar Decanter Sludge (EPA Hazardous Waste K087) as a Product

A. AISI Petition

The American Iron and Steel Institute (AISI) has petitioned the EPA with respect to the practice of recycling tar decanter sludge by the following means:

1. Applying the sludge to coal prior to or just after charging the coal into the coke oven and;

2. Combining the sludge with coal tar prior to its being sold.

The coke and the coal tar are often used as fuel and so are presently classified as solid wastes and hazardous wastes since they are fuels produced or otherwise containing hazardous waste—EPA Hazardous Waste No. K087, tar decanter sludge. See § 261.2(c)(2)(i)(B). These hazardous waste fuels presently are exempt from regulation § 261.6(a)(2)(vii) and 50 FR 49170–171 (Nov. 29, 1985). The AISI has requested that EPA not classify such coke or coal tar as solid wastes. AISI submits that recycling the decanter sludge does not

significantly affect the concentration of toxic metal and organic constituents of the coke or coal tar. EPA has indicated that waste-derived fuels could be classified as products under such circumstances, "since the more waste-derived fuels from a process are like products from the same process produced by virgin materials, the less likely EPA is to classify the waste-derived fuel as a waste." 50 FR 49169 (Nov. 29, 1985). To support its request, the AISI has submitted data on the metals and organic constituents in coke, coal tar, and tar decanter sludge both with and without sludge recycling.

B. Process Description

Coke used for making iron is manufactured through the destructive distillation of coal in ovens. A typical oven holds approximately 13 tons of coal which is heated to a temperature of about 2000 °F. Generally 20 to 100 ovens are located adjacent to each other in a "coke oven battery." The destructive distillation or "coking" process takes about 15–18 hours. During that time period, about 20–35 percent of the coal is converted to coke oven gas (COG) consisting of water vapor, tar, light oils, heavy hydrocarbons, and other chemical compounds. The COG is collected from the top of the coke oven and, in most cases, sent to the by-product plant via the coke battery main. The COG is then cleaned by removing wastes and by-products prior to being burned, generally in the coke oven under-firing system. As a first step in the COG cleaning process, the coal tars, consisting of heavy hydrocarbons, are condensed from the gas. In addition, most of the particulates that escape from the ovens is collected in the tar. These particulates are believed to consist principally of coal fines. The particulates or solids are then removed from the tar in the tar decanter. The coal tar is then burned as fuel or sold for use in various products such as roofing cement. The sludge has been listed as EPA Hazardous Waste No. K087 and is either disposed of or recycled either by mixing with the coal prior to being charged to the coke oven or mixing directly with the coal tar after physical processing (grinding) prior to sale.

Approximately 8–12 gallons [70] of tar is produced per ton of coke. In addition, approximately one pound of tar decanter sludge is produced for every 40 pounds of tar produced.

C. Basis for Proposed Approval of the AISI Petition

The AISI has submitted data on metals and organic chemical analysis for the coke, coal tar, and tar decanter sludge for four plants.[71] Specifically, the data included analyses for the following constituents:

Metals	*Organic Constituents*
Arsenic	Anthracene and Phenanthrene
Cadmium	Benzo(a)anthracene and Chrysene
Chromium	Benzo(a)pyrene
Mercury	Fluoranthene
	Pyrene
	Napthalene
	Phenol

The results of 34 samples were submitted by AISI. The Agency reviewed these results and determined the following:

1. The recycle of the tar decanter sludge by application to the coal charge does not appear to have a significant effect on the chemical make-up of coke.
2. The organic chemical make-up of the tar decanter sludge does not appear to be significantly different from the coal tar.
3. The concentration of one metal, lead, in the sludge appears to be slightly higher than in the coal tar. The increase does not appear to be statistically significant, however, due to the high variability of the concentration values.

Based on the above and the fact that there is such a small quantity of sludge relative to the quality of coke and coal tar produced by the coking process, EPA believes that sludge recycling as described here does not significantly affect the concentration of toxic metals and organic constituents in coal tar or coke. Furthermore, coke, coal tar, and the decanter tank tar sludge arise from a single process, are similar materials, and contain the same contaminants. Therefore, EPA is proposing that these materials be classified as products, not wastes. We note that only the waste-derived fuels would be excluded from jurisdiction; the decanter tank tar sludge would remain a regulated hazardous waste prior to combining with coke or coal tar. See 50 FR 49171 (Nov. 29, 1985).

IV. Notice of Intent to Amend the Subpart O Incinerator Standards

Today's proposed rules for boilers and industrial furnaces burning hazardous waste would be more comprehensive than the current Subpart O standards for hazardous waste incinerators. First, the proposed CO limits would ensure that devices continuously operate at high combustion efficiencies when burning hazardous waste. Thus, this would help ensure the devices achieve high destructive efficiencies of organic compounds with minimal PIC (products of incomplete combustion) emissions over the life of the permit. CO limits for incinerators, however, are currently based on levels achieved during the trial burn. Given that field tests demonstrate that boilers can achieve 99.99% DRE during upset condition as evidenced by high CO levels and smoke emissions, incinerator CO limits may be set at levels that in some cases represent upset conditions. Incinerators operated at elevated CO levels may emit higher levels of PICs than they would if operated at levels representative of high combustion efficiency. Thus, EPA intends to propose to amend the Subpart O standards to prescribe CO limits applicable during the life of the permit and to require that conformance with the limits be demonstrated during the trial burn.

Second, today's rule proposes risk-based metals emissions limits. Metals emissions from incinerators are currently controlled with a technology-based and outdated particulate standard developed for municipal solid waste combustors.[72] That standard, 0.08 grains/standard cubic foot, may not, in certain situations, be fully protective with respect to metals emissions. Therefore, the Agency is considering whether additional particulate controls or controls on individual metals are needed to make the standards fully protective.

Finally, today's rule also proposes a risk-based emission limit for HCl. HCl emissions from incinerators are controlled with a technology-based standard that limits HCl emissions to 4 lb/hr unless the emissions are controlled with a device having at least a 99% HCl removal efficiency. That standard may over-regulate some situations (e.g., large incinerators with tall stacks) and under-regulate others. Therefore, the Agency is considering whether a risk based standard should be developed for incinerators to ensure that fully protective and cost-effective controls are applied.

The Agency plans to propose amendments to the Subpart O standards as necessary in Fall 1987. The final rule

[70] *The Making, Shaping, and Treating of Steel*, 10th Edition, Association of Iron and Steel Engineers, 1985.

[71] Correspondence from E.F. Young, Jr., AISI, to Steven E. Silverman, Esq., EPA, dated July 25, 1986; correspondence from Earl F. Young, Jr., AISI, to Dwight Hlustick, EPA, dated December 2, 1986.

[72] The Agency is currently evaluating the risk posed by emissions of metals, unburned organics (including dioxins), and acid gases (e.g., HCl) from municipal waste combustors (MWCs) and is reviewing applicable regulatory and nonregulatory approaches.

is scheduled to be promulgated in Spring 1988.

In the interim, until the amendments are promulgated and effective, permit officials will be encouraged to use the omnibus provision of section 3005(c) of HSWA to prescribe permit conditions as necessary to protect human health and the environment.

V. Boilers, Industrial Furnaces, and Incinerators are BDAT for HOCs

The Agency notes that it recently proposed to establish incineration in accordance with sections 264.343 and 265.343 as Best Demonstrated Available Technology (BDAT) for certain hazardous wastes containing Halogenated Organic Compounds (HOC) at concentrations exceeding 1000 ppm. See 51 FR 44726 (December 11, 1986). EPA believes that burning HOC wastes in boilers and industrial furnaces pursuant to permit or interim status standards (or burning in small quantity burning devices) would be equally effective and also should constitute BDAT for these wastes. Accordingly, should the Agency adopt the standards proposed today (or comparable standards), the Agency would amend proposed § 268.42(a)(2) (51 FR 44740) to indicate that HOCs must be burned in incinerators, boilers, or industrial furnaces.

VI. Classification of Pickle Liquor

Although not related directly to today's proposal, the Agency is proposing one additional action today. It involves the scope of the listing of Hazardous Waste K062. This listing applies to pickle liquor from steel finishing operations at facilities within the iron and steel industry (SIC Codes 331 and 332). When EPA first promulgated this amendment in May 1986, the Agency erroneously described the scope of the listing as applying to plants that actually produce iron and steel. 51 FR 19320 (May 28, 1986). This error was inadvertent and obviously unintended given that EPA had never proposed such a change, no commenter ever suggested such a change, and, in the relevant preambles, the Agency repeatedly described its action as applying to all plants in the iron and steel industry (50 FR 38966/1, 36967/1, 36967/2 (Sept. 20, 1985) and 51 FR 19320/2, 19321/1 (May 28, 1986)). In addition, if the listing was to apply only to facilities actually producing iron and steel, then the listing would be narrower than a parallel exclusion from listing of sludge generated from treatment of "spent pickle liquor from the iron and steel industry (SIC Codes 331 and 332)" (§ 261.2(c)(2)(ii))—a facial contradiction since one cannot exclude more than one has listed.

For these reasons, EPA corrected the error by means of a technical correction (51 FR 33612 (Sept. 22, 1986)). One person questioned this change arguing that it was in fact substantive rulemaking requiring prior notice and comment. Although we think this petition is without merit for the reasons given above, to avoid further dispute we will propose the change. Until this proposal is finalized, the scope of the listing is as stated in the correction notice, namely pickle liquor generated by plants in the iron and steel industry (SIC Codes 331 and 332).

VII. Landfill Gas

In the November 29, 1985, final rules, we indicated that gas recovered from hazardous waste landfills was not presently regulated under the waste as fuel rules. 50 FR 49171. EPA took this action in order to study further the extent to which these might be jurisdictional limits on the Agency's RCRA authority. *Id.* We are proposing to amend this language slightly by indicating that it applies as well to gas recovered from solid waste landfills. See proposed § 266.30(a). This allows for the possibility of the gas itself exhibiting a characteristic of hazardous waste. We are continuing to consider the jurisdictional issued, including the implications of section 124(b) of the recent Superfund Amendments and Reauthorization Act of 1986 (SARA) (which addresses the regulatory status of methane recovered from any type of landfill).

The Agency also solicits comment on whether the hydrocarbon phase of the condensate removed from recovered gas should also be exempt when burned as fuel. There do not appear to be jurisdictional issues for this material; the hydrocarbon phase appears to be classified as solid and hazardous waste by the SARA provision cited above, as well as by existing EPA rules (as a hazardous secondary material burned for energy recovery). EPA is not precluded, however, from promulgating an exemption if regulation is unnecessary to protect human health and the environment, and would consider doing so if shown that the hydrocarbon phase is chemically similar to normal fossil fuels, or if burning and storage of the hydrocarbon phase otherwise poses insufficient hazard to warrant regulation. Commenters should address these points explicitly, and provide supporting data.

Part Six: Administrative, Economic, and Environmental Impacts, and List of Subjects

I. State Authority

A. Applicability of the Rules 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, 7003, and 3013 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 which 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 the HSWA take effect in authorized States at the same time that they take effect in nonauthorized 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, the HSWA applies in authorized States in the interim.

Today's proposed rule will be promulgated pursuant to section 3004(q) of RCRA, a provision added by HSWA. Therefore, this rulemaking would be added to Table 1 in § 271.1(j) which identifies the Federal program requirements that are promulgated pursuant to HSWA and that take effect in all States, regardless of their authorization status. States may apply for either interim or final authorization for the HSWA provisions identified in Table 1 as discussed below.

B. Effect on State Authorization

As noted above, EPA would implement today's rule in authorized States until they modify their programs to adopt these rules and the modification is approved by EPA. Because the rule would be promulgated pursuant to HSWA, a State submitting a program modification may apply to receive either interim or final authorization under section 3006(g)(2) or 3006(b), respectively, on the basis of requirements that are substantially equivalent or equivalent to EPA's. The procedures and schedule for State program modifications under section 3006(b) are described in 40 CFR 271.21. See 49 FR at 21678 (May 22, 1984). The same procedures should be followed for section 3006(g)(2).

40 CFR 271.21(e)(2) requires that States that have final authorization must modify their programs to reflect Federal program changes, and must subsequently submit the modifications to EPA for approval. The deadlines for the State to modify its program for this proposed regulation will be determined by the date of promulgation of the final rule in accordance with § 271.21(e). These deadlines can be extended in exceptional cases (40 CRF 271.21(e)(3)). Once EPA approves the modification, the State requirements become Subtitle C RCRA requirements.

States with authorized RCRA programs may already have requirements similar to those in today's rule. These State regulations have not been assessed against the Federal regulations being proposed today to determine whether they meet the tests for authorization. Thus, a State is not authorized to implement these requirements in lieu of EPA until the State program modification is approved. Of course, States with existing standards may continue to administer and enforce their standards as a matter of State law. In implementing the Federal program EPA will work with States under cooperative agreements to minimize duplication of efforts. In many cases EPA will be able to defer to the States in their efforts to implement their programs, rather than take separate actions under Federal authority.

States that submit official applications for final authorization less than 12 months after promulgation of EPA's regulations may be approved without including standards equivalent to those promulgated. However, once authorized, a State must modify its program to include standards substantially equivalent or equivalent to EPA's within the time periods discussed above.

II. Regulatory Impact Analysis

A. Purpose

The Agency is required under Executive Order 12291 to prepare a Regulatory Impact Analysis that provides estimates of compliance costs, economic impacts, and the risk reduction associated with the proposed regulation. The results of these analyses are used to determine whether the regulation is "major" as defined by E.O. 12291. The Agency is also required under the Regulatory Flexibility Act to assess small business impacts resulting from the proposed rule.

The results of the above analyses indicate that today's proposed regulation is neither a major rule, nor will it significantly impact small entities. This section of the preamble discusses the results of the cost, impact, and risk analyses of the proposed rule as detailed in the draft Regulatory Analysis for Waste-as-Fuel Technical Standards: Proposed Rule, October, 1986. The draft RIA is available in the public docket.

The regulatory impact analysis results (i.e., costs, impacts, risks) presented in this section do not fully reflect today's proposed rule. Specifically, the RIA does not fully assess the effects of the risk based standards for metals and chlorine. The RIA does not assess the effect of varying the standards with the type and number of devices at a given facility, and on the type of surrounding terrain (flat or complex). Other components of the rule that are not analyzed in the RIA include the Tier IV standard, current quantity limits for the small quantity burner exemption, variance for low risk wastes, eligibility of stoker coal devices for the trial burn waiver, the requirement of a redundant carbon monoxide monitoring system, and burning solely for the purpose of materials recovery. These new components of the rule, and how they may affect the analysis presented in the RIA, are discussed in the draft Effects of Recent Changes on the Estimated Costs and Benefits of the Proposed Waste as Fuel Technical Standards, January 1987. This report is an addendum to the RIA and is available in the public docket.

It is unclear how these components of the rule would affect the absolute results of the cost, economic impact, and risk analyses presented in the RIA. However, the Agency believes that the basic conclusions presented in this section should be applicable to today's rule. Moreover, the Agency believes that the rule would remain a non-major regulation as defined by the $100 million annual criteria of E.O. 12291.

B. Affected Population

The characteristics of the burners that would be potentially affected by today's proposed rule were obtained from the Waste-as-Fuel Survey of 1984.[73] The sample design and general survey results are described in the Final Report for the Survey of Waste-as-Fuel: Track II, November 1985, conducted for EPA by Westat, Inc. This report is available in the public docket.

The Waste-as-Fuel (WAF) Survey was designed to collect information on burners of waste derived fuel material (WDFM) and used or waste oil that are not regulated as incinerators under RCRA Subtitle C. The subset of those devices burning hazardous waste derived fuel material (HWDFM) for energy recovery was identified from the set of all WDFM burners.

The baseline for this analysis consists of burners who currently fire HWDFM for energy recovery. The WAF Survey characterized burning practices in 1983. Several rules have been imposed since then that would affect the decision to burn HWDFM. The results from the survey were adjusted, to the extent possible, to account for these rules: the Definition of Solid Waste promulgated January 4, 1985 (50 FR 614), the Phase I Administrative Standards promulgated November 29, 1985 (50 FR 49164), and the Standards for Hazardous Waste Storage and Treatment Tank Systems and Generators promulgated July 14, 1986 (51 FR 25422). The adjusted set of hazardous waste burners represents the population potentially affected by today's proposed rule.

EPA estimated the cost, impact, and risks on facilities that are estimated to be burning HWDFM when today's proposed rule becomes effective. EPA did not estimate the net effect of various incentives (or disincentives) that will exist in the future on burning HWDFM and are independent of today's proposed rule. Generally, cost increases for alternative waste management practices will act as an incentive for burning, while lowering of energy prices will serve as a disincentive to burn HWDFM. New restrictions on land disposal generator wastes serve as incentives for increased burning of HWDFM. The net effect will likely be increased incentives for burning hazardous waste. An increase in future burning of HWDFM would result in

[73] The survey sample design did not include SIC 14 for which the Agency is aware of light-weight aggregate kilns that are fired with hazardous waste derived fuel material (HWDFM). The Agency adjusted the survey results to account for these devices.

greater costs and changes in risk when compared to the estimates presented in this analysis. However, at present, the Agency is unable to determine the net effect of these factors on future burners of hazardous waste, the characteristics of future burners, and the subsequent responses to the proposed requirements. Thus, the analysis presented here concerns only current burners of HWDFM as reported in the WAF Survey and as adjusted to include lightweight aggregate kilns.

The affected population consists of approximately 895 boilers burning 115 million gallons of HWDFM per year and 57 industrial furnaces burning 114 million gallons of HWDFM per year. Industrial boilers represent 94 percent of all devices burning HWDFM and burn 50 percent of all HWDFM.

The majority of the HWDFM is burned by a few facilities. Approximately three percent of the facilities burn 44 percent of all HWDFM. Moreover, the WAF Survey indicates that although the burning of HWDFM is widespread across many industries, it is not prevalent within any one industry. Based on the WAF Survey and the 1982 Census of Manufacturers, only SIC 2611 (pulp mills) and SIC 2865 (cyclic crudes and intermediate organic chemicals) have reported burning of HWDFM in greater than 10 percent of the industry (11.2 and 11.1 percent respectively).

The chemicals industry (SIC 28) contains 17 percent of the facilities that burn 54 percent (or 123 million gallons annually) of the HWDFM. Thus, typically large quantities of HWDFM (986,511 gallons annually) are burned per facility in this industry. Most facilities in the chemicals industry burn wastes that are generated on-site.

Other industries that burn large quantities of HWDFM annually (greater than 10 million gallons) are: non-metallic minerals, except fuels (SIC 14); paper and allied products (SIC 26); chemicals and allied products (SIC 28); petroleum and related products (SIC 29); and stone, clay, glass, and concrete (SIC 32). Similar to the chemicals industry, relatively few facilities are reported in these industries indicating that, on average, large quantities of HWDFM are burned per facility.

Two industries, in addition to SIC 28, have more than 100 facilities burning HWDFM: furnitures and fixtures (SIC 25); and auto repair and service (SIC 75). These industries burn less than one percent of all HWDFM. On average, relatively small quantities of HWDFM (i.e., 6,000 gallons annually) are burned per facility within these industries.

C. Cost Analysis

1. *Methodology.* To obtain the incremental regulatory costs,[74] it is first necessary to determine the net savings achieved in the baseline from firing HWDFM. Burning HWDFM for energy recovery results in reduced requirements for primary (conventional) fuels. The savings are a function of the quantity and price of primary fuel displaced. Relative heat content must be considered when determining quantity of primary fuel displaced with HWDFM.

Savings also include the avoided alternative disposal costs for on-site burners. The alternative method of disposal was considered to be incineration at a cost of $0.34 per gallon of HWDFM burned. This figure includes a component for transporting the wastes off-site. The actual alternative disposal cost will depend on what options are available to the facility operator, and on the characteristics of the diverted wastes (i.e., suitability of wastes for burning). More precise estimates of disposal costs were not possible due to limited information on available options and waste characteristics for the specific burners.

The above net savings were not adjusted to account for increased operating and maintenance costs due to firing hazardous waste fuel. It is possible that burners would encounter increased costs due to corrosion, fouling, ash disposal, or pretreatment of the wastes. These costs would vary with the device and waste type. Detailed information was not available to estimate these costs. Net savings tend to be overstated by not including these costs.

The level of net savings for a given burner was used to predict the response to the proposed rule. The methodology assumes that burners will discontinue burning HWDFM if their potential compliance costs exceed net savings. Thus, the total net savings for all burners represents an upper bound on compliance costs reflecting the worst case scenario where all burners would discontinue firing HWDFM.

To derive compliance costs, the Agency developed unit costs of compliance for the proposed rule and engineering costs for model devices.[75] Compliance activities include installation of carbon monoxide and oxygen monitors, trial burns, reduction in quantity of HWDFM fired to meet emissions limits, prohibiting firing of HWDFM at start-up and shut-down, trial burns, installation of air pollution control equipment, and administrative requirements.

Each of the devices that reported burning HWDFM in the WAF Survey was assigned to a model device. The least-cost option was determined for each device reported in the survey to comply with the regulation (or discontinue burning if compliance costs exceed net savings). The costs for the individual survey respondents were then extrapolated to estimate national costs.

The characteristics of each device as reported in the WAF Survey represent the current design and operating practices from which the Agency estimated incremental costs. The WAF Survey provided detailed information on the burners that included device type, device size, annual quantity of HWDFM burned, use of monitoring and air pollution control devices, source of waste (on-/off-site), method of firing wastes into the combustion device, and current regulatory status under RCRA.

Although the survey requested waste code and a description of the waste burned, it did not ask for waste constituent data. Since costs (and risks) can vary considerably with waste constituent levels, a sensitivity analysis was performed to account for various waste levels (e.g., POHCs, metals, chlorine).

Costs and risks also vary with assumptions on the levels of device destruction and removal efficiency (DRE) of organics and air pollution control device removal efficiencies (REs) achieved in the baseline. (All devices are assumed to meet the target level of 99.99 percent DRE after imposition of the proposed requirements.) The DRE and RE levels were varied in the baseline to test the sensitivity of these assumptions to costs and risks. Results of varying DRE and RE levels are not presented in this preamble although the results are detailed in the RIA. Waste characteristics tend to vary across burners more so than DRE or RE, and the waste sensitivity analysis that has been conducted has the greatest affect on costs and risks.

Costs were estimated for two types of wastes: a base case waste and a high risk waste. A waste database (for metals levels) was assembled from wastes that are currently being burned

[74] All cost figures are in 1985 dollars. A seven percent real rate and a five percent inflation rate were used to discount future cash flows.

[75] Engineering-Science, *Background Information Document for the Development of Regulations to Control Burning of Hazardous Waste in Boilers and Industrial Furnaces*, Volumes I and II, January 1987, NTIS Order Nos. PB 87 173829 and PB 87 173837.

or could potentially be combusted.[76] The base case waste was assumed to contain metals levels at the 50th percentile and 'typical' POHC and chlorine levels.[77] The high risk waste was assumed to contain 90th percentile metals levels and 'high' POHC and chlorine levels.

The actual cost of the proposed rule is more likely to be near the cost for the base case waste scenario. The base case waste is assumed to be a more representative waste (containing 50th percentile metals levels and typical levels of POHCs and chlorine) than the high risk waste. However, an exact estimate of compliance costs cannot be made due to the lack of waste constituent data for specific burners.

Facility operators have several options for complying with the proposed rule. These options consist of conducting a trial burn to prove 99.99 percent destruction and removal efficiency (4–9's DRE); waiving the trial burn if special design and operating conditions are met (for boilers only); qualifying for the small quantity burner exemption if quantity limits are met for a given device size and wastes are burned on-site; and discontinue burning HWDFM if compliance costs exceed net savings. Estimates of costs presented in this section assume that the facility operator will choose the least-cost option in complying with the proposed rule.

2. *Results.* The Agency determines that the proposed rule will result in a social cost between 8.2 and 77.0 million dollars on an annualized basis.[78] Thus, based on the $100 million annual cost threshold established in E.O. 12291, today's proposed rule is non-major.

The $8.2 million figure is the social cost for the base case waste scenario; the $77.0 million figure represents the worst case scenario where all devices discontinue burning HWDFM. (Although the Agency does not believe that the worst case scenario is the likely outcome of the proposed rule, it does provide an upper bound on the cost of today's rule.) The social cost associated with the high risk waste scenario is $37.3 million annually.

Table 5 presents the estimated average compliance cost per device type and the anticipated response of device owner/operators to the proposed rule. Also listed is the percent of waste burned (or displaced) for each option. Sixty-five percent of the boilers are estimated to qualify for the small quantity burner exemption; however, less than one percent of all HWDFM is burned under this exemption. This reflects the WAF Survey finding that a large number of boilers fire very small quantities of waste. These boilers would most likely discontinue burning HWDFM if not allowed to continue under the small quantity burner exemption. Approximately 40 percent of the boilers that elect the small quantity burner exemption do so while firing the same quantity of HWDFM as in the baseline. The other 60 percent of the boilers reduce the amount of HWDFM fired (and incur lost savings) in order to meet the small quantity burner exemption quantity limits.

TABLE 5. AVERAGE COMPLIANCE COST PER DEVICE AND ESTIMATED RESPONSE TO REGULATION

[Base Case Waste]

	Average cost per device*	Small quantity burner exemption, (percent)	Trial burn waiver, (percent)	Trial burn, (percent)	Discontinue burning, (percent)
Boilers	$8,942	65	11	2	22
Kilns	$47,754	5	N/A	95	0
Other furnaces	$34,314	13	N/A	87	0
Percent of waste burned/displaced		<1	44	53	3

* Dollars are before-tax, annualized.
N/A—not applicable as device type is not eligible for trial burn waiver.

The weighted average annualized before-tax cost for boilers of $8,942 consists of: an average cost of $5,490 for boilers operating under the small quantity burner exemption (representing lost savings to meet the quantity limits); an average cost of $40,260 for boilers that elect the trial burn waiver; an average cost of $42,650 for boilers that conduct a trial burn; and an average cost of $161 for boilers that discontinue burning HWDFM. The majority of boilers that stop burning HWDFM are space heaters and are not eligible for the small quantity burner exemption because their design heat input is less than the minimum allowed for the small quantity burner exemption. These space heaters are operated in the services (non-manufacturing) industry and burn very small quantities of hazardous waste as reflected by the low average annualized compliance cost.

Kilns and other industrial furnaces can incur substantial compliance costs and continue burning HWDFM due to the large quantities of waste fired per device. The average annualized before-tax compliance cost for kilns (i.e., cement, lime, lightweight aggregate) is $47,754 and the average cost for other furnaces (e.g., blast furnaces) is $34,314.

Almost all of the waste (97 percent) is burned by devices that conduct a trial burn or satisfy the trial burn waiver conditions. Approximately three percent of the HWDFM burned in the baseline is displaced from devices that discontinue burning or devices that continue to burn but at a reduced quantity. As stated previously, less than one percent of the waste is burned under the small quantity burner exemption.

Table 6 presents similar information for the high risk waste (i.e., 90th percentile metals levels, "high" POHC and Cl levels). The device response to the proposed rule is similar to the base case waste although the average cost per device is significantly higher for all devices.

[76] Engineering-Science, *Background Information Document for the Development of Regulations to Control Burning of Hazardous Waste in Boilers and Industrial Furnaces*, Volume I, January 1987, NTIS Order No. PB 87 173829.

[77] POHC and Cl levels obtained from the RCRA Risk-Cost Analysis Model Waste Stream Data, SCS Engineers, July 1984.

[78] The social cost is the cost to society, independent of any transfer payments (e.g., taxes). The social cost of the proposed rule does not include lost fuel savings to the original burner for displaced wastes. Thus, the social cost for displaced wastes is only the alternative disposal cost assumed to be $0.34 per gallon. The lost conventional (e.g., fossil) fuel savings for a burner who reduces the quantity fired or stops burning HWDFM are assumed to be transferred to the burner who has excess capacity to accept the displaced wastes.

However, the lost fuel savings are included when estimating the before and after-tax private costs to individual facilities. The after-tax annualized cost to industry for the base case waste scenario is $5.2 million, $30.6 million for the high risk waste, and $63 million for the worst case scenario (where all devices discontinue burning HWDFM).

TABLE 6. AVERAGE COMPLIANCE COST PER DEVICE AND ESTIMATED RESPONSE TO REGULATION

[High Risk Waste]

	Average cost per device*	Small quantity burner exemption, (percent)	Trial burn waiver, (percent)	Trial burn, (percent)	Discontinue burning, (percent)
Boilers	$58,400	66	10	3	22
Kilns	$160,428	5	N/A	81	14
Other furnaces	$149,763	13	N/A	87	0
Percent of waste burned/displaced		<1	15	51	33

* Dollars are before-tax, annualized.
N/A—not applicable as device type is not eligible for trial burn waiver.

Table 7 shows the components of the aggregate compliance costs for the base case and high risk waste scenarios. The major component under each waste scenario is lost savings from burners who must reduce the quantity of HWDFM fired in order to meet the limits for organics, metals, and chlorine. Boilers will reduce tne HWDFM quantity fired under either waste scenario. Boilers are more likely to reduce the quantity of HWDFM burned rather than install expensive air pollution control equipment. The Agency estimates that no boilers will be installed with new air pollution control under the base case waste scenario and only 10 boilers will be equipped with air pollution control under the high risk waste scenario. These 10 boilers fire large quantities of HWDFM (greater than 1 million gallons annually) and at high feed rates (greater than 25 percent total heat input). Thus, for these boilers, the potential lost savings in displaced wastes required by blending to meet the limits would exceed the cost to install air pollution control. The difference between the two scenarios for the CO and O_2 monitors reflects the greater number of devices that discontinue burning HWDFM under the high risk waste scenario.

TABLE 7.—COMPONENTS OF COMPLIANCE COSTS

[Dollars in millions, annualized, after-tax]

	Scenario		
	Base case waste	High risk waste	Worst case (all stop firing)
Type of cost			
Lost savings	$2.3	$25	$63.0
O_2 Monitoring	0.4	0.3	

TABLE 7.—COMPONENTS OF COMPLIANCE COSTS—Continued

[Dollars in millions, annualized, after-tax]

	Scenario		
	Base case waste	High risk waste	Worst case (all stop firing)
CO monitoring	1.5	1.3	
Air pollution control	0.0	2.9	
Trial burns	0.4	0.4	
Administrative requirements	0.6	0.6	
Testing	<0.1	0.1	
Total costs	5.2	30.6	63.0

Industrial furnaces are currently installed with some form of air pollution control equipment that will allow for compliance with the emissions limits, without reducing the quantity of HWDFM fired, under the base case waste scenario. However, in certain cases under the high risk waste scenario, the air pollution control equipment must be supplemented with a reduction in quantity in order to meet the limits.

Carbon monoxide (CO) monitoring is also a significant component of compliance costs. The WAF Survey indicates that only a few boilers (mostly those burning large quantities of HWDFM) are currently monitoring for CO. Although most kilns and other furnaces currently monitor for CO, the Agency believes that these monitors are not sensitive enough to show compliance with the limits established in today's proposed rule. A total of 104 boilers, 30 kilns, and 22 other furnaces (about 16 percent of all devices currently burning HWDFM) are estimated to install CO monitors under the base case waste scenario. A total of 95 boilers, 26 kilns, and 22 other furnaces (15 percent of all devices burning HWDFM) are estimated to install CO monitors under the high risk waste scenario. The annualized before-tax cost for CO monitoring is approximately $20,000 per year.

D. Economic Impacts

1. *Methodology.* The economic analysis focused on facility level impacts. Industry level impacts were not considered since the results of the WAF Survey suggest that burning HWDFM is practiced by only a small percentage of facilities in any one industry. (Although the burning of HWDFM is practiced across a wide range of industries.) Industry-wide impacts would not be significant where only a small percentage of facilities incur regulatory costs.

The percentage of facilities firing HWDFM also influences whether compliance costs, resulting from the proposed rule, are absorbed by the facility or are passed through as price increases. Since few facilities within any industry burn HWDFM, they are more likely to absorb regulatory costs and thus face reduced profitability or possibly plant closure.

If the facilities were to pass through the compliance costs in the form of higher prices, the facilities might then be at a competitive disadvantage with other facilities that did not incur increased costs. Therefore, potential economic impacts of this rule are more likely to take the form of reduced profitability and possibly plant closure.

Little information was available regarding the profitability of affected burners in the baseline. Facilities burning HWDFM might be experiencing returns that are below or above the industry average. The lack of uncertainty on the financial strength of the affected burners prohibits predicting impacts with certainty. Thus, the economic analysis presented will identify industries where facilities are most likely to experience impacts, based on average financial measures of strength for that industry and employee size range.

A two stage analysis was conducted in determining impacts. First, a screening analysis was performed to identify those facilities that may be significantly impacted. The total compliance cost for all devices burning HWDFM at a facility was compared to the total baseline operating and maintenance (O&M) cost for those devices. Operating and maintenance costs include net fuel savings from

burning HWDFM. As stated previously, net savings have not been adjusted due to increased costs for pretreatment, corrosion maintenance, or ash disposal. Overstating net savings will understate total O&M costs; thus, the percent increase in O&M costs due to the compliance costs may be overstated.

Facilities were considered to face potentially significant impacts if the total cost of compliance exceeded the total O&M cost for all devices by five percent or greater. Generally, an increase in facility costs will be less than the increase in device O&M costs. Similarly, it is unlikely that significant impacts would be imposed on a facility if one segment of its operations incurred an increase of less than five percent. Thus, a five percent increase in device O&M costs represents a conservative screen for potential facility impacts.

The screening analysis was conducted on boilers only. No baseline device O&M costs were available for kilns and other furnaces. However, all kilns and other furnaces burning HWDFM were included in the second stage of the analysis.

The second stage consisted of an analysis to assess impacts on the facility level. All devices were analyzed for facility level impacts. The facility's cost of compliance was compared to three measures of plant financial strength: cash from operations (CFO), cost of production (COP), and value of shipments (VOS). Plant-specific financial information was not available for the affected burner population. The three measures of plant financial strength that were used in the analysis are representative facility values for a given four digit SIC code and employee size range. A facility is considered to face a significant impact if the cost of compliance for all devices at the facility exceeds 5 percent of any of the three financial measures.

The ratio of compliance costs to COP reflects the price increase required to recover the compliance costs and maintain the facility's profit margin; comparing costs to VOS represents the required price increase to recover costs without any mark-up for profit margin; the ratio of compliance costs to CFO represents the decrease in profitability if the facility absorbs the regulatory costs. As stated previously, it is probable that costs will be absorbed where few facilities within an industry incur compliance costs from today's proposed rule and, thus, compliance costs as a percentage of CFO is the most relevant parameter.

Moreover, the cost of compliance relative to CFO is often the most conservative indicator of potential impacts. Cash from operations is the difference between the value of shipments (VOS) and the cost of production (COP). CFO is always less than VOS and often smaller than COP. Thus, costs as a percentage of CFO is usually greater than costs as a percentage of VOS or COP and will typically represent the most conservative indicator.

2. *Screening analysis results.* For the base case waste scenario, 14 facilities (representing 15 boilers), from a total of 708 facilities with boilers burning HWDFM, incur compliance costs that exceed 5 percent of total baseline O&M costs. Table 8 presents these figures. These facilities mostly operate in the chemicals industry (SIC 28) and tend to fire HWDFM at greater percentages of the heat input than other facilities whose compliance costs are less than 5 percent of baseline O&M costs.

TABLE 8.—OVERVIEW OF SCREENING ANALYSIS RESULTS FOR BOILERS BASE CASE WASTE

Increase in O&M costs (percent)	Number of facilities	Number of boilers	Percent of all boilers (percent)	Annual average HWDFM per device (percent total Btu)
<5	694	880	98.3	1.52
5–9	9	10	1.2	9.26
10–24	0	0	0.0	NA
25–74	5	5	0.5	38.17
75–99	0	0	0.0	NA
100+	0	0	0.0	NA
All boilers	708	895	100.0	1.79

The Agency estimates that all of these boilers will continue burning HWDFM after implementation of the proposed rule. The Agency also believes that this scenario is the most likely outcome of the proposed rule.

Table 9 provides screening analysis results for the high risk waste scenario. Sixty-two facilities (representing 102 boilers) incur compliance costs that exceed 5 percent of baseline O&M costs. The boilers at these facilities also tend to be fired with HWDFM at higher rates than boilers at other facilities. All of these boilers are estimated to continue burning HWDFM as a result of the proposed rule.

TABLE 9.—OVERVIEW OF SCREENING ANALYSIS RESULTS FOR BOILERS HIGH RISK WASTE SCENARIO

Increase in O&M costs (percent)	Number of facilities	Number of boilers	Percent of all boilers (percent)	Annual average HWDFM per device (percent total Btu)
<5	646	793	88.6	0.69
5–9	19	39	4.3	5.03
10–24	26	30	3.4	9.72
25–74	17	33	3.7	17.15
75–99	0	0	0.0	NA
100+	0	0	0.0	NA
All boilers	708	895	100.0	1.79

Under the worst case scenario, where all devices discontinue burning HWDFM, 71 facilities (representing 116 boilers) are estimated to incur compliance costs exceeding 5 percent of baseline O&M costs. The Agency does not believe this scenario is the likely outcome of the proposed rule, especially for those boilers firing large quantities of HWDFM that are likely to incur

compliance costs that are well below net savings. However, these results do provide an upper-bound estimate of cost increases and impacts from the proposed rule.

3. *Facility level analysis results.* Under the base case scenario, one WAF Survey respondent (representing 14 facilities with one boiler each operating in SIC 7399) is estimated to incur compliance costs exceeding 5 percent of CFO. This respondent does not incur compliance costs greater than 5 percent of baseline O&M costs in the screening analysis. The Agency believes that the industry average financial measures may understate the true financial health of this facility, and that the result from the screening analysis is a better indicator of potential impacts for this facility. These 14 facilities are reported as operating in the services industry as solvent recyclers and are estimated to continue burning HWDFM under the trial burn waiver (for both the base case and high risk waste scenarios). The Agency, therefore, believes it is unlikely that there will be significant impacts on any facilities under the base case waste scenario.

Table 10 presents estimates of facilities experiencing significant impacts for any of the three financial measures under the high risk waste scenario. Of the twenty-three facilities estimated to face potentially significant impacts, only two facilities (with two kilns each), operating in SIC 3241, are estimated to discontinue firing HWDFM. The 23 facilities operate in SICs: 1422—Crushed and Broken Limestone; 2800—Chemicals Manufacturing; 2861—Gum and Wood Chemicals; 3241—Cement, Hydraulic; and 7399—Business Services, Not Elsewhere Classified.

TABLE 10.—OVERVIEW OF IMPACTS BY INDUSTRY [1] UNDER THE HIGH RISK WASTE SCENARIO PROPOSED RULE

SIC	Number of facilities	Number of devices	Average number of employees per facility	Average device size (MMBtu/hour)	Average HWDFM burned per device (gallon/hour)	Average cost of compliance/ cost of production per facility (percent)	Average cost of compliance/ value of shipments per facility (percent)	Average cost of compliance/ cash from operation per facility (percent)
Crushed and Broken Limestone								
1422	1	2	60	50.0	4,000,000	29.12	61.88	19.80
Chemicals and Allied Products								
2800	2	10	1450	497.7	4,513,880	3.16	2.01	5.51
Gum and Wood Chemicals								
2861	5	11	221	73.8	623,698	2.34	1.99	13.48
Cement, Hydraulic								
3241	2	5	165	180.0	2,372,486	4.15	2.79	8.50
Business Service, NEC								
7399	14	14	45	20.0	190,000	16.39	13.12	65.58
Totals [2]	23	41.0						

[1] Includes only facilities with cost of compliance greater than 5 percent of O&M Cost (when available) and greater than 5 percent of Cash from Operations, Cost of Production, or Value of Shipments, except for SIC 7399 where compliance costs are less than 5 percent of device O&M cost.

[2] Totals may not equal sum of rows due to rounding.

Under the worst case scenario, 33 facilities are estimated to incur significant impacts as a result of the proposed rule. In addition to the five industries impacted under the high risk waste scenario, facilities in SIC 2631—Paperboard Mills, SIC 2819—Industrial Inorganic Chemicals, Not Elsewhere Classified; SIC 2869—Industrial Organic Chemicals, Not Elsewhere Classified; and SIC 3312—Blast Furnaces, Steelworks, and Rolling Mills are also estimated to incur significant impacts. As stated previously, the Agency does not believe this scenario to be the likely outcome of the proposed rule.

E. Risk Analysis

1. *Methodology.* For each of the boilers and industrial furnaces, EPA estimated the quantity and composition of stack releases; atmospheric transport, resulting ground level concentration and exposure to the stack release constituents; and, the doses received by the most exposed individual (MEI) and by human populations within 50 kilometers of each device. Estimates were made for each device burning HWDFM in the baseline and after imposition of the proposed rule. This allowed for a determination of the incremental risk reduction achieved by the proposed requirements.

The Agency estimated carcinogenic health effects (i.e., cancer cases) from emissions of principal organic hazardous constituents (POHCs), products of incomplete combustion (PICs), and metals (i.e., arsenic, cadmium and chromium). The Agency also determined exposure levels (but not cases) from emissions of the threshold compounds lead, hydrogen chloride, and toluene. EPA considered air emissions and exposure due to inhalation but did not address other types of releases (e.g., spills from storage or transportation, fugitive emissions) and routes of exposure (e.g., ingestion of contaminated crops or animals).

Changes in health risk may result from the upgraded performance of a device due to achieving compliance with the proposed rule. Improved performance may result from the installation (or upgrading) of APCDs, the installation of CO and O_2 monitors to ensure optimum combustion efficiency, and prohibiting firing of HWDFM at start-up and shut-down.

Alternative management of displaced wastes will also affect changes in risk. Displaced HWDFM from devices that stop burning or that reduce the quantity fired was assumed to be burned in

industrial furnaces that accept off-site wastes and continue to burn HWDFM (but not reduce the quantity fired) after imposition of the proposed rule. Results from the WAF Survey indicate that industrial furnaces, especially kilns, tend to burn large quantities of HWDFM that are generated off-site. Boilers tend to fire smaller quantities of HWDFM that are often generated on-site. Thus, industrial furnaces are more likely than boilers to accept off-site wastes. Inherent in this scenario is the assumption that the displaced wastes contain sufficient heat content so that they are attractive for burning for energy recovery.

The waste scenarios used in the risk analysis are identical to those used in the cost analysis. The composition and firing rate of the HWDFM determines the amount of hazardous constituents potentially released from the stack. The HWDFM firing rate for devices in the baseline is that reported in the WAF Survey. The firing rate for post-regulation is the level associated with the least-cost compliance method per device.

The level of destruction and removal efficiency (DRE) for organics and APCD removal efficiency (RE) for metals determines the actual stack releases of the constituents.

Devices operating in the baseline were assumed to be equipped with air pollution control devices (APCDs) as reported in the WAF Survey. Each APCD was assumed to achieve a level of removal efficiency that was considered typical for that APCD type.

Various DRE levels were assigned to the devices based on the reported presence of CO and O_2 monitors, charging of solid or liquid wastes into the device, and whether HWDFM represented more or less than 50 percent of the total fuel input. Although the stack tests conducted by EPA reveal that boilers can readily achieve 99.99 percent DRE, the range of design and operating conditions in the stack tests did not cover the wide range of conditions reported in the WAF Survey. Thus, respondent devices from the WAF Survey were assigned to DRE categories. All devices burning HWDFM after imposition of the proposed rule were assumed to achieve the target level of 99.99 percent DRE.

The location of each device as reported in the WAF Survey was used as an input for dispersion modeling that estimated the resulting exposure to human populations. Incorporating the location of each of the WAF Survey respondents allows for dispersion modeling that accounts for the climatology and general population surrounding the specific device.

Once the exposure estimates were determined, the dosage and resulting increased risk received by the human population (and most exposed individual) were calculated. Humans were assumed to breathe 22 cubic meters of air per day, absorb 100 percent of the hazardous material inhaled, weigh 70 kilograms, and be of "average" susceptability. No antagonistic or synergistic affects among the various compounds were analyzed. Stack releases were assumed to continue for 70 years, and all other factors also remained constant over this period (e.g., human population, weather). Finally, each incidence of risk for a device reported in the WAF Survey was extrapolated to obtain national estimates for the total population of devices burning HWDFM.

Health effects were also assessed from emissions of the non-carcinogenic (threshold) compounds lead, hydrogen chloride (HCl), and toluene. Toluene was chosen to represent a non-carcinogenic POHC since it is a compound often present in organic hazardous wastes.

The Agency calculated the ratio of predicted exposure (for both the MEI and average population) to the reference dose for each of the three threshold compounds. The sum of the three ratios was also calculated. Although the risks from threshold compounds may not be additive, the sum of the ratios does serve as an indicator of potential effects from exposure to multiple contaminants.

No information was available on the ambient (background) levels of the three compounds surrounding each specific device. This lack of data prohibits an analysis of how the exposure from burning HWDFM contributes to total ambient levels. If the resulting exposure from all sources of threshold compounds is less than the reference dose, then the burning of HWDFM produces no incremental health risk for these compounds. However, if the exposure from baseline burning of HWDFM and other sources exceed the reference dose, then the reduced exposure resulting from today's rule may reduce the health risk from any or all of these three compounds.

In order to consider the potential for significant ambient levels, EPA assumed that other sources could account for up to 90 percent of the reference does. This would allow for the burning of HWDFM to pose no health risk from each of the threshold compounds if the resulting exposure was less than 10 percent of the reference dose. Thus, a screening analysis was done to identify the number of devices burning HWDFM that produced emisisons of threshold compounds, in the baseline and after imposition of the proposed rule, that exceeded 10 percent or more of the reference dose.

2. *Results.* Table 11 presents estimates of the lifetime (i.e., 70 year) cancer cases for the base case waste scenario. Estimates are provided for devices operating in the baseline and those that continue to burn HWDFM (or burn displaced wastes) after imposition of the proposed rule.

TABLE 11.—EXPECTED LIFETIME CANCER CASES

[Base case waste scenario]

	POHC's	PIC's	Metals	Total
Baseline	1	1	16	18
Post-regulation	0	0	15	15
Cases avoided	1	1	1	3
Cases avoided from devices that continue to burn				3
Cases avoided from devices that discontinue burning				0
Cases from burning of displaced wastes				(<1)
Net cases avoided				3

The base case waste scenario results in 3 cases avoided from the 759 devices that continue to burn HWDFM after imposition of the proposed rule. There are no cases avoided from the 193 devices that discontinue burning HWDFM because over 95 percent of these devices are space heaters that are fired with very low quantities (100 gallons annually) of HWDFM. The burning of displaced HWDFM in industrial furnaces results in less than one lifetime cancer case. Thus, the net reduction in 70-year cases is approximately three. Under this waste scenario, all of the after-regulation risk and the majority of the baseline risk is from metals (i.e., arsenic, cadmium,

chromium) emissions. It is likely that many wastes will not have all three metals at the assumed levels. The above results may overstate risks for these types of wastes.

Table 12 presents the risks to the most exposed individual (MEI); the Agency estimates that there are no devices burning HWDFM in the baseline that pose a lifetime risk equal to or greater than one in ten thousand. Ten devices produce a risk to the MEI in the one in one hundred thousand range. The remaining 942 devices are estimated to produce a MEI risk in the one in one million range or less. After compliance with the proposed rule, no devices that were burning HWDFM in the baseline would generate incremental lifetime risks in the one in ten thousand range. Forty-eight devices are estimated to produce a MEI risk in the one in one million range, while the remaining 706 devices burning HWDFM generate risks in the one in ten million range or less.

TABLE 12.—RISKS TO THE MEI

[Base case waste scenario]

	Risk level	Number of devices	Percent of device population
Baseline	$>10^{-4}$	0	0
Do	10^{-4}	0	0
Do	10^{-5}	10	1
Do	10^{-6}	61	6
Do	10^{-7}	103	11
Do	$<10^{-7}$	778	82
Total		952	100
Post-regulation	$>10^{-4}$	0	0
Do	10^{-4}	0	0
Do	10^{-5}	6	1
Do	10^{-6}	48	5
Do	10^{-7}	56	6
Do	$<10^{-7}$	650	68
Total		759	80
Devices that discontinue burning		193	20

For noncarcinogenic effects under the base case waste scenario, EPA estimates that there are no devices producing MEI or average population exposures, in the baseline or after-regulation, exceeding 10 percent of any of the reference doses. The sum of the ratios is also less than 10 percent. Thus, if other sources produce exposure levels less than 90 percent of the reference doses, then the proposed rule achieves no benefits from reduced emissions of threshold compounds.

The Agency estimates that, under the high risk waste scenario, there are 391 cases avoided from the 755 devices that continue to burn and no cases avoided from the 197 devices that discontinue burning HWDFM. Table 13 presents these results. Alternative management of the displaced HWDFM produces 74 cases. Thus, there is a net reduction of 317 lifetime cases. Similar to the base case waste results, metals emissions account for the majority of the baseline and post-regulation risks.

TABLE 13.—EXPECTED LIFETIME CANCER CASES

[High risk waste scenario]

	POHC's	PIC's	Metals	Total
Baseline	25	4	582	611
Post-regulation	2	0	218	220
Cases avoided	23	4	364	391
Cases avoided from devices that continue to burn				391
Cases avoided from devices that discontinue burning				0
Cases from burning of displaced wastes				(74)
Net cases avoided				317

Table 14 presents estimates of MEI risk for the high risk waste scenario. In the baseline, 19 devices produce an MEI risk in the one in ten thousand range, 100 devices produce an MEI risk in the one in one hundred thousand range, and the remaining 833 devices produce an MEI risk in the one in one million range or less. After imposition of the proposed rule, no devices produce an MEI risk in the one in ten thousand range, 73 devices produce an MEI risk in the one in one hundred thousand range, and 682 devices produce an MEI risk in the one in one million range or less (197 devices discontinue burning HWDFM).

TABLE 14.—RISKS TO THE MEI

[High risk waste scenario]

	Risk level	Number of devices	Percent of device population
Baseline	$>10^{-4}$	0	0
Do	10^{-4}	19	2
Do	10^{-5}	100	11
Do	10^{-6}	167	17
Do	10^{-7}	198	21
Do	$<10^{-7}$	468	49
Total		952	100
Post-regulation	$>10^{-4}$	0	0
Do	10^{-4}	0	0
Do	10^{-5}	73	8
Do	10^{-6}	52	5
Do	10^{-7}	35	4
Do	$<10^{-7}$	595	62
Total		755	79
Devices that discontinue burning		197	21

For the high risk waste scenario, Table 15 shows that 45 devices would produce exposures exceeding 10 percent of the HCl threshold level in the baseline. A total of 58,838 people would be exposed to this HCl level. The sum of the ratios for the three compounds exceeds 10 percent at 47 devices (5 percent of all devices burning HWDFM) in the baseline. For these devices, the proposed rule eliminates all exposures greater than 10 percent of the threshold.

TABLE 15.—CHANGES IN NON-CANCER HEALTH RISK

[High risk waste scenario, average ratio of exposure to RFD >0.1]

Constituent	Baseline		Post-regulation	
	Number of devices	Total population w/in 50 km	Number of devices	Total population w/in 50 km
Noncarcinogenic POHC's	0	0	0	0
HCL	0	0	0	0
Lead	0	0	0	0
Sum of ratios	0	0	0	0

MEI RATIO OF EXPOSURE TO RFD >0.1

Constituent	Baseline		Post-regulation	
	Number of devices	Total population w/in 50 km	Number of devices	Total population w/in 50 km
Noncarcinogenic POHC's	0	0	0	0
HCL	45	58,838	0	0
Lead	0	0	0	0
Sum of ratios	47	64,915	0	0

F. Regulatory Flexibility Analysis

The Regulatory Flexibility Act (RFA) requires Federal regulatory agencies to evaluate the impacts of regulations on small entities. The RFA requires an initial screening analysis to determine whether the proposed rule will have a significant impact on a substantial number of small businesses.

This section discusses the methodology and results of the Agency's RFA screening analysis. Based on this analysis, the Agency has determined that today's rule will not have a substantial impact on a substantial number of small firms.

1. *Methodology.* The facility financial measures used in the overall economic analysis were used for the RFA screening analysis. A small entity was considered to be significantly impacted when the cost of compliance for one or more devices exceeded by five percent any of the three financial measures (i.e., cost of production, value of shipments, cash from operations).

The RFA defines small entities as small businesses, small organizations, and small governmental jurisdictions. The Small Business Administration's (SBA) definition of "small" ranges from 100 to 500 employees depending on the Standard Industrial Classification (SIC) code.

The cost and impact analyses were conducted at the facility rather than at the firm level due to lack of information on firm size. Neither the RFA nor the SBA defines "small" establishments, although for single-establishment firms the SBA's small business standards would apply. All facilities are considered to be single establishment firms for the impact assessment.

For purposes of this analysis, small entities were defined to be those facilities with fewer than 100 employees. Four size categories (i.e., less than 10, 10 to 50, 51 to 100, greater than 100 employees) were used to compare impacts between small and large establishments and the relative burden imposed on small businesses.

The Agency has defined "substantial number" as twenty percent of the affected small entities.[79] The population of affected small facilities as reported in the WAF Survey (and as adjusted to include lightweight aggregate kilns) was used for the analysis. If twenty percent of all facilities with less than 100 employees are significantly affected, then the proposed rule is considered to have a significant impact on a substantial number of small entities.

2. *Results.* The assessment of small business impacts was conducted for all devices burning HWDFM in the baseline.

As stated in Section D—Economic Impacts, the Agency estimates that no facilities will incur compliance costs that exceed 5 percent of any of the three financial measures for the base case waste scenario. Although, as identified above, 14 facilities operating in SIC 7399 are estimated to incur costs greater than 5 percent of CFO, EPA believes that the industry financial data on which this finding is based are not reliable for these facilities. Thus, EPA believes that these facilities will not experience significant impacts. Moreover, although these 14 facilities represent 49 percent of all facilities in the 10 to 49 employee size range, they represent only 5 percent of all small facilities (facilities with less than 100 employees). Thus, the Agency estimates that a substantial number of small entities will not be significantly impacted under the base case waste scenario. The Agency believes this scenario to be the most likely outcome of the proposed rule.

Table 16 shows an overview of impacts for the high risk waste scenario. Excluding the 14 facilities in SIC 7399, whose industry financial information is believed to be inappropriate, one "small" facility (in the 50 to 99 employee size range) is estimated to incur significant impacts. This facility operates in SIC 1422 and burns HWDFM in two kilns. Eight facilities (operating in SICs 2800, 2861 and 3241) with greater than 100 employees are also estimated to face significant impacts. The one "small" facility represents less than one percent of all facilities with less than 100 employees. (Including the 14 facilities in SIC 7399 would bring the total of significantly impacted small facilities to 6 percent of all facilities with less than 100 employees.) Thus, under the high risk waste scenario, it appears that a significant number of small entities will not be significantly impacted by today's rule.

[79] EPA, Guidelines for Implementing the Regulatory Flexibility Act, pp. 6–7.

TABLE 16.—OVERVIEW OF IMPACTS FOR SMALL ESTABLISHMENTS

[High risk waste scenario]

Establishment size (number of employees)	Total number of facilities	Total number of devices	Average cost of compliance/ cost of production per facility (percent)	Average cost of compliance/ value of shipments per facility (percent)	Average cost of compliance/ cash from operations per facility (percent)	Facilities experiencing significant impacts	
						(Number)	(Percent of total)
<10	193	193	0.24	0.29	1.13	0	0.00
10 to 49	28	33	8.21	6.53	32.38	14	48.87
50 to 99	38	42	0.91	1.73	0.98	1	2.62
100+	480	685	0.12	0.09	0.35	8	1.76
Totals	738	952	0.50	0.47	0.60	23	

In summary, the Agency believes that it is unlikely that small entities will experience significant impacts under the base case scenario. Although one facility does experience significant impacts under the high risk waste scenario, it does not represent a "substantial number" of the affected small entities. Therefore, the proposed rule does not meet the Regulatory Flexibility Act criteria requiring that a full Regulatory Flexibility Analysis be completed.

The Agency solicits public comments and additional data regarding the assumptions, costs, risks, and possible impacts identified in the regulatory analysis.

G. Paperwork Reduction Act

The information collection requirements in this proposed rule have been submitted for approval to the Office of Management and Budget (OMB) under the *Paperwork Reduction Act*, 44 U.S.C. 3501 *et seq.* An Information Collection Request document has been prepared by EPA (ICR No. 1361) and a copy may be obtained from Rick Westlund, Information Policy Branch; EPA; 401 M Street, SW., (PM-223); Washington, DC 20460 or by calling (202) 382-2745. Submit comments on these requirements to EPA and: Office of Information and Regulatory Affairs; OMB; 726 Jackson Place, NW.; Washington, DC 20503 marked "Attention: Desk Officer for EPA." The final rule will respond to any OMB or public comments on the information collection requirements.

III. *List of Subjects in 40 CFR Parts 260, 261, 264, 265, 266, 270, and 271*

Administrative practices and procedures, Confidential business information, Hazardous materials transportation, Hazardous waste, Indian lands, Insurance, Intergovernmental relations, Packaging and containers, Penalties, Recycling, Reporting and recordkeeping requirements, Security measures, Security bonds, Water pollution control, Water supply.

Dated: April 17, 1987.

Lee M. Thomas,

Administrator.

APPENDIX A.—REFERENCE AIR CONCENTRATIONS (RAC'S) FOR THRESHOLD CONSTITUENTS

Constituent	Maximum annual average ground level concentration ($\mu g/m^3$)
Acetonitrile	10
Acetophenone	500
Acrolein	0.25
Aluminum phosphide	0.25
Allyl alcohol	5
Antimony	0.25
Barium	50
Barium cyanide	50
Benzidine	0.5×10^{-5}
Bis(2-ethylhexyl)phthalate	17
Bromomethane	0.7
Calcium cyanide	25
Carbon disulfide	200
Chlordane	5×10^{-3}
2-chloro-1,3-butadiene	2.5
Chloromethane	0.7
Chromium III	1,000
Copper cyanide	50
Cresols	100
Cyanide(free)	17
Cyanogen	25
Di-n-butyl phthalate	10
O-dichlorobenzene	10
Dichlorodifluoromethane	170
2,4-dichlorophenol	2.5
1,3-dichloropropene	0.25
Diethyl phthalate	10
Dimethoate	1.0
2,4-dinitrophenol	1.0
Diphenylamine	225
Endosulfan	0.01
Endrin	0.05
Flourine	50

APPENDIX A.—REFERENCE AIR CONCENTRATIONS (RAC'S) FOR THRESHOLD CONSTITUENTS—Continued

Constituent	Maximum annual average ground level concentration ($\mu g/m^3$)
Formaldehyde	2×10^{-3}
Formic acid	1700
Heptachlor	0.1
Hexachlorocyclopentadiene	5
Hydrocyanic acid	17
Hydrogen chloride	(1)
Hydrogen sulfide	2.5
Isobutyl alcohol	250
Lead	0.09
Mercury	1.7
Metholmyl	23
Methoxychlor	50
Methly ethyl ketone	75
Methyl hydrazine	7×10^{-3}
Methyl parathion	2.5
Nickel	10
Nickel cyanide	17
Nitric oxide	25
Nitrobenzene	0.5
Pentachlorobenzene	1.7
Pentachlorophenol	25
Phenol	100
M-phenylenediamine	5
Phenylmercuric acetate	0.08
Phosphine	0.025
PCBs	2×10^{-4}
Potassium cyanide	50
Potassium silver cyanide	170
Pyridine	5
Selenious acid	2.5
Selenourea	5
Silver	5
Silver cyanide	100
Sodium cyanide	25
Strychnine	0.25
1,2,4,5-tetrachlorobenzene	0.25
2,3,7,8-tetrachlorodibenzo-p-dioxin	5×10^{-9}
2,3,7,8-tetrachlorophenol	10
Tetraethyl lead	1×10^{-4}
Thallic oxide	0.25

APPENDIX A.—REFERENCE AIR CONCENTRATIONS (RAC'S) FOR THRESHOLD CONSTITUENTS—Continued

Constituent	Maximum annual average ground level concentration ($\mu g/m^3$)
Thallium	500
Thallium (I) acetate	0.5
Thallium (I) carbonate	0.25
Thallium (I) chloride	0.5
Thallium (I) nitrate	0.5
Thallium selenite	0.5
Thallium (I) sulfate	0.5
Toluene	500
1,2,4-trichlorobenzene	17
Trichloromonofluoromethane	250
2,4,5-trichlorophenol	100
Vandium pentoxide	17
Vinyl chloride	0.05

[1] Maximum of 150 for three minute average.

APPENDIX B.—RISK SPECIFIC DOSES FOR CARCINOGENIC CONSTITUENTS AT 10^{-5} Risk Level

Constituent	Risk specific dose ($\mu g/m^3$)
Acrylamide	9×10^{-3}
Acrylonitrile	1×10^{-1}
Aldrin	2×10^{-3}
Aniline	1
Arsenic	2×10^{-3}
Benz(a)anthracene	1×10^{-2}
Benzene	1
Benzo(a)pyrene	3×10^{-3}
Beryllium	4×10^{-3}
Bis(2-chloroethyl)ether	3×10^{-2}
Bis(2-chloromethyl)ether	4×10^{-3}
Cadmium	6×10^{-3}
Carbon tetrachloride	7×10^{-1}
1-Chloro-2,3-epoxypropane	8
Chloroform	4×10^{-7}
Chloromethyl methyl ether	4×10^{-3}
Chromium (hexavalent)	8×10^{-4}
DDT	3×10^{-2}
Dibenz(a,h)anthracene	7×10^{-4}
1,2-Dibromo-e-chloropropane	2×10^{-3}
1,2-Dibromoethane	8×10^{-4}
1,4-Dichlorobenzene	2
1,2-Dichloroethane	4×10^{-1}
1,1-Dichloroethylene	2×10^{-1}
Dieldrin	2×10^{-3}
Diethylstilbestrol	7×10^{-5}
Dimethylnitrosamine	1×10^{-4}
2,4-Dinitrotoluene	1×10^{-1}
Dioxane	7
Ethylene oxide	1×10^{-1}
Hexachlorobenzene	2
Hexachlorobutadiene	5×10^{-1}
Hydrazine	3×10^{-3}
Hydrazine Sulfate	3×10^{-3}
3-Methylchlolanthrene	4×10^{-3}

APPENDIX B.—RISK SPECIFIC DOSES FOR CARCINOGENIC CONSTITUENTS AT 10^{-5} Risk Level—Continued

Constituent	Risk specific dose ($\mu g/m^3$)
Methylene chloride	2
4,4-Methylene-bis-2-chloroaniline	2×10^{-1}
Nickel (carbonyl and Subsulfide)	3×10^{-2}
2-Nitropropane	4×10^{-3}
N-Nitroso-n-methylurea	1×10^{-5}
N-Nitrosopyrrolidine	2×10^{-2}
Pentachloronitrobenzene	1×10^{-1}
Pronamide	2
Reserpine	3×10^{-3}
1,1,2,2-Tetrachloroethane	2×10^{-5}
Tetrachloroethylene	21
Thiourea	2×10^{-2}
Trichloroethylene	8

Appendix C.—Example Tier I and Tier II Calculations

Example #1 (Tier I)

A 10 MM Btu/hr (heat input) boiler is burning hazardous waste at a rate of 150 lbs/hr along with 400 lbs/hr of heating oil. The boiler is located in flat terrain. The waste has a heating value of 10,000 Btu/lb and contains the metal concentrations:

Arsenic = 0.5 ppm
Cadmium = 1.0 ppm
Chromium = 0.4 ppm
Lead = 1.0 ppm

Question: Is the waste in compliance with Tier I standards?

For this case the following equation from proposed § 266.34–4(b)(3)(i)(B) applies:

$$(1)\ \frac{(As)}{3.9\times10^{-4}}+\frac{(Cd)}{9.8\times10^{-4}}+\frac{(Cr+6)}{1.4\times10^{-4}}\leq 1.0$$

Note.—For Tier I, all chromium in the waste is treated as hexavalent chromium (Cr+6).

First (As), (Cd), and (Cr) in units of lb/MM Btu, must be determined for the waste using the following equation(s):

$$(M)=\frac{Cm\ (10^6\ Btu)(10^{-6}\ lbs/ppm)}{Hw}$$

which simplifies to:

$$(2)\ (M)=\frac{Cm}{Hw}$$

where:

(M) is the metal feedrate in the waste in lb/MM Btu.
Cm is the metal concentration in the waste in ppm.
Hw is the heat content of the waste in Btu/lb.

Therefore:

$$(As)=\frac{0.5}{10^4}=5\times10^{-5}\ lb/MM\ Btu$$

$$(Cd)=\frac{1.0}{10^4}=1\times10^{-4}\ lb/MM\ Btu$$

$$(Cr)=\frac{0.4}{10^4}=4\times10^{-5}\ lb/MM\ Btu$$

Substituting in equation #1:

$$\frac{5\times10^{-5}}{3.9\times10^{-4}}+\frac{1\times10^{-4}}{9.8\times10^{-4}}+\frac{4\times10^{-5}}{1.4\times10^{-4}}=$$

$0.13+0.10+0.28=0.52<1.0$

Therefore, the facility is in compliance with Tier I standards for arsenic, cadmium, and chromium.

As for lead, using equation #2:

$$(Pb)=\frac{10}{10^4}=1\times10^{-3}\ lb/MM\ Btu$$

From proposed § 266.34–4(b)(3)(i)(B), maximum lead levels are 1.6×10^{-2} lb/MM Btu. Therefore, the facility is in compliance with the all Tier I metal standards. Note: It is proposed that the specific levels for the metals will be fixed in the final permit based on the characteristics of the waste and equation #1.

Example #2 (Tier II)

The above boiler is burning a hazardous waste under the same conditions as example #1 except the hazardous waste has the following metals concentrations:

Arsenic = 2.0 ppm
Cadmium = 1.0 ppm
Chromium = 0.4 ppm
Lead = 20 ppm

Question: Would the boiler be in compliance with Tier II standards when burning fuel oil containing the following metals:

Arsenic = 0.5 ppm
Cadmium = 0.2 ppm
Chromium = 0.2 ppm
Lead = 1.0 ppm

In this case, the following equation for Tier II (from proposed § 266.34–4(b)(2)) must be used to calculate the metal feed rate (MFR):

$$(3)\qquad MFR = \frac{Mw \times Rw + \sum_{i=1}^{N} M_{Fi} \times R_{Fi} + \sum_{j=1}^{N} M_{FSj} \times R_{FSj}}{H_T} \times 10^{-6}$$

For this case the equation can be simplified to the following:

$$(4)\ MFR = \frac{Mw \times Rw + M_{F1} \times R_{F1}}{H_T} \times 10^{-6}$$

where:

MFR means the individual metal feed rate in pounds/million Btu of total heat input to the device.

Mw means individual metal concentration in the hazardous waste in ppm.

Rw means the hazardous waste feed rate in pounds/hour.

M_{F1} means the concentration of metal in the other fuel, F1, in ppm.

R_{F1} means the feed rate for the other fuel, F1, in pounds/hour.

H_T means the total heat input to the device in million Btu/hour.

Therefore, substituting in equation #4

$$(As) = \frac{2.0 \times 150 \text{ lbs/hr} + 0.5 \times 400 \text{ lbs/hr}}{10 \text{ million Btu/hr}} \times 10^{-6}$$

$= 5 \times 10^{-5}$ lb/MM Btu

$(Cd) = 2.1 \times 10^{-5}$ lb/MM Btu

$(Cr) = 1.4 \times 10^{-5}$ lb/MM Btu

and then substituting in equation #1:

$$\frac{5.0 \times 10^{-5}}{3.9 \times 10^{-4}} + \frac{2.1 \times 10^{-5}}{9.8 \times 10^{-4}} + \frac{1.4 \times 10^{-5}}{1.4 \times 10^{-4}} =$$

$0.128 + 0.02 + 0.10 = 0.25 < 1.0$

The facility is in compliance with the Tier 11 requirements for arsenic, chromium, and cadmium.

For lead, using equation #4

$$(Pb) = \frac{2.0 \times 150 + 0.5 \times 400}{10} \times 10^{-6}$$

$= 3.4 \times 10^{-4}$ lb/MM Btu

which is also in compliance with the 1.6×10^{-2} lb/MM Btu lead standard.

For the reasons set out in the Preamble, it is proposed to amend Title 40 of the Code of Federal Regulations as follows:

PART 260—HAZARDOUS WASTE MANAGEMENT SYSTEM: GENERAL

I. In Part 260:

1. The authority citation for Part 260 continues to read as follows:

Authority: Secs. 1006, 2002, 3001 through 3007, 3010, and 7004, Solid Waste Disposal Act, as amended by the Resource Conversation and Recovery Act of 1976, as amended, 42 U.S.C. 6905, 6912, 6921 through 6927, 6930, and 6974.

2. It is proposed to amend the definition of "Industrial Furnace" in § 260.10 by redesignating paragraph (12) as (13) and by adding a new paragraph (12) to read as follows:

§ 260.10 Definitions.

* * * * *

"Industrial furnace" * * *

(12) Halogen acid furnaces for the production of acid from halogenated secondary materials generated at chemical production facilities where the furnace is located on-site and the acid product has a halogen acid content of at least 6%.

* * * * *

3. It is proposed to amend paragraph (a) of § 260.11 by adding following reference in alphabetical order:

§ 260.11 References.

(a) * *–*

"Guidelines for Permit Writers: Permitting Hazardous Waste Combustion Facilities Using Risk Assessment".

* * * * *

PART 261—IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

II. In Part 261:

1. The authority citation for Part 261 continues to read as follows:

Authority: Secs. 1006, 20O2(a), 3001, and 3002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 6905, 6912(a), 6921, and 6922).

2. Section 261.32 is amended by revising the entry under "iron and steel" for the hazardous waste listing K062 to read as follows:

§ 261.32 Hazardous wastes from specific sources.

* * * * *

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
Iron and Steel:		
* * *		
K062	Spent pickle liquor generated by steel finishing operations of facilities within the iron and steel industry (SIC Codes 331 and 332).	(C, T)

* * * * *

3. It is proposed to amend § 261.4 by adding paragraph (a)(9) to read as follows: **§ 261.4 Exclusions.**

(a) * * *

(9) Coke and coal tar from the iron and steel industry that contains or is

produced from decanter tank tar sludge, EPA Hazardous Waste K087.

* * * * *

PART 264—STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT, STORAGE, AND DISPOSAL FACILITIES

III. In Part 264:

1. The authority citation for Part 264 continues to read as follows:

Authority: Secs. 1006, 2002(a), 3004, 3005 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 6905, 6912(a), 6924, and 6925).

2. It is proposed to amend § 264.340 by revising paragraph (a) to read as follows:

§ 264.340 Applicability.

(a) The regulations of this subpart apply to owners and operators of hazardous waste incinerators (as defined in § 260.10 of this chapter), except as § 264.1 provides otherwise.

* * * * *

PART 265—INTERIM STATUS STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT, STORAGE, AND DISPOSAL FACILITIES

IV. In Part 265:

1. The authority citation for Part 265 continues to read as follows:

Authority: Secs. 1006, 2002(a), 3004, and 3005 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 6905, 6924, and 6925).

2. It is proposed to amend § 265.340 by revising paragraph (a) to read as follows:

§ 265.340 Applicability.

(a) The regulations of this subpart apply to owners and operators of hazardous waste incinerators (as defined in § 260.10 of this chapter), except as § 265.1 provides otherwise.

* * * * *

PART 266—STANDARDS FOR THE MANAGEMENT OF SPECIFIC WASTES AND SPECIFIC TYPES OF WASTE MANAGEMENT FACILITIES

V. In Part 266:

1. The authority citation for Part 266 continues to read as follows:

Authority: Secs. 1006, 2002(a), 3004, and 3014 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 6905, 6912(a), 6924, and 6934).

2. It is proposed to revise Subpart D to read as follows:

Subpart D—Hazardous Waste Burned in Boilers and Industrial Furnaces

Sec.

§ 266.30 Applicability.

(a) The regulations of this subpart apply to hazardous waste burned in a boiler or industrial furnace (as defined in § 260.10 of this chapter), except as provided by paragraph (b) of this section. A secondary material burned in an industrial furnace exclusively for materials recovery is not a solid (and if hazardous, hazardous) waste, however, if it is indigenous to the process in which the industrial furnace is used, in the sense of being generated by the same type of industrial furnace as that in which burning occurs, or, for secondary smelting furnaces, the material is scrap metal or battery plates and groups. These regulations also do not apply to gas recovered from hazardous (or solid) waste landfills when such gas is burned for energy recovery.

(b) The following hazardous wastes and facilities are not subject to regulation under this subpart:

(1) Used oil burned for energy recovery that is also a hazardous waste solely because it exhibits a characteristic of hazardous waste identified in Subpart C of Part 261 of this chapter. Such used oil is subject to regulation under Subpart E of Part 266 rather than this subpart; and

(2) Hazardous wastes that are exempt from regulation under §§ 261.4 and 261.6 (a)(3)(v)–(ix) of this chapter, and hazardous wastes that are subject to the special requirements for small quantity generators under § 261.5 of this chapter.

§ 266.31 Standards for generators.

Generators of hazardous waste that is burned in a boiler or industrial furnace are subject to Part 262 of this chapter. Generators who burn such hazardous waste also are subject to §§ 266.34 and 266.35.

§ 266.32 Standards for transporters.

Transporters of hazardous waste that is burned in a boiler or industrial furnace are subject to Part 263 of this chapter.

§ 266.33 Standards for owners and operators of treatment or storage facilities.

(a) Owners and operators of facilities that treat or store hazardous waste that is burned in a boiler or industrial furnace are subject to the applicable provision of Subparts A through L of Part 264, Subparts A through L of Part 265, and Part 270 of this chapter, except as provided by paragraph (b) of this section. These standards apply to storage by the burner as well as to storage and treatment facilities operated by intermediaries (processors, blenders, distributors, etc.) between the generator and the burner.

(b) Owners and operators of facilities that burn, in an on-site boiler or industrial furnace exempt from regulation under the small quantity burner provisions of § 266.34–1(b), hazardous waste that they generate are exempt from regulation under Subparts A through L of Part 264, Subparts A through L of Part 265, and Part 270 of this chapter with respect to the storage of mixtures of hazardous waste and the boiler or industrial furnace primary fuel in tanks that feed the fuel mixture directly to the boiler. Storage of hazardous waste prior to mixing with the primary fuel is subject to regulation as prescribed in paragraph (a) of this section.

§ 266.34 Standards for owners and operators of facilities that burn hazardous waste in a boiler or industrial furnace.

§ 266.34–1 Applicability.

(a) *General*. Owners and operators of facilities that burn hazardous waste in a boiler or industrial furnace are subject to this section except as provided by § 266.30 and paragraphs (b) and (c) of this section.

(b) *Small quantity on-site burner exemption.* Owners and operators of facilities that burn hazardous waste that they generate in an on-site boiler, blast furnace, sulfur recovery furnace, light-weight aggregate kiln, asphaltic concrete kiln, lime kiln, or cement kiln are exempt from the requirements of this section provided that:

(1) The quantity of hazardous waste burned in a calendar month does not exceed the limits provided below as a function of device size. No more than one type of device may burn hazardous waste at a given site under this exemption, and the number of devices of each type that can burn waste at a given site are limited (i.e., hazardous waste may be burned at a given site under only one of the following paragraphs, (b)(1) (i) through (viii) of this section, and only in the maximum number of devices precribed for that paragraph). The size of the boiler or industrial furnace means maximum rated heat input capacity.

(i) *Boilers:*

Boiler size (million Btu/hr)	Quantity limit/device (gallon/month)
0.4 to 1.5	7
>1.5 to 10	13
>10 to 50	26
>50 to 150	55
>150 to 400	100
>400	300

No more than two boilers may burn hazardous wastes under this exemption at a site.

(ii) *Blast furnaces:*

Blast furnace size (million Btu/hr)	Quantity limit/device (gallon/month)
500 to 1,400	250
>1,400	420

No more than two blast furnaces may burn hazardous wastes under this exemption at a site.

(iii) *Sulfur recovery furnaces:*

Furnace size (million Btu/hr)	Quantity limit/device (gallon/month)
>50	40

No more than four sulfur recovery furnaces may burn hazardous wastes under this exemption at a site.

(iv) *Asphaltic concrete kilns:*

Kiln size (million Btu/hr)	Quantity limit/device (gallon/month)
>18	110

No more than one asphaltic concrete kiln may burn hazardous wastes under this exemption at a site.

(v) *Lime kilns:*

Kiln size (million Btu/hr)	Quantity limit/device (gallon-month)
>60	200

No more than two lime kilns may burn hazardous wastes under this exemption at a site.

(vi) *Light-weight aggregate kilns:*

Kiln size (million Btu/hr)	Quantity limit/device (gallon-month)
>45	110

No more than three light weight aggregate kilns may burn hazardous wastes under this exemption at a site.

(vii) *Wet cement kilns:*

Kiln size (million Btu/hr)	Quantity limit/device (gallon/month)
90 to 200	170
>200	420

No more than three wet cement kilns may burn hazardous wastes under this exemption at a site.

(viii) *Dry cement kilns:*

Kiln size (million Btu/hr)	Quantity limit/device (gallon-month)
60 to 160	140
>160	280

No more than three dry cement kilns may burn hazardous wastes under this exemption at a site.

(2) The hazardous waste fuel does not contain (and is not derived from) EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, or F027.

(3) The maximum hazardous waste firing rate cannot exceed at any time 1 percent of the total boiler or industrial furnace fuel (hazardous waste plus other fuel) on a volume basis.

Note.—Hazardous wastes that are subject to the special requirements for small quantity generators under § 261.5 of this chapter may be burned in an off-site device under the exemption provided by § 266.34–1(b), but must be included in the quantity determination of the exemption.

(4) *Notification requirements.* The owner/operator of facilities qualifying for the on-site small quantity burner exemption under paragraphs (b) (1), (2), and (3) of this section must provide a one-time written notice to EPA indicating the following:

(i) The combustion unit is operating as a small quantity burner of hazardous waste;

(ii) The requirements of § 266.34–1 and any other applicable standards providing for their status as a small quantity burner will be complied with at all times; and

(iii) Hazardous waste generated off-site (other than small quantity generator hazardous waste exempt under § 261.5 of this chapter) will not be burned;

(5) *Recordkeeping requirements.* The owner or operator must maintain the following records at the site to show compliance with this subsection:

(i) Sufficient records to show compliance with the hazardous waste quantity and firing rate limits must be maintained at the facility for three years;

(ii) These records, at a minimum, must indicate the device capacity size and the quantity of hazardous waste and other fuel burned in each unit per month.

(c) *Applicability of Part 264 standards.* Owners and operators of boilers and industrial furnaces that burn hazardous waste are subject to the following provisions of Part 264 of this chapter, except as provided otherwise by this section:

(1) In Subpart A (General), § 264.4;

(2) In Subpart B (General facility standards), §§ 264.11–264.18;

(3) In Subpart C (Preparedness and prevention), §§ 264.31–264.37;

(4) In Subpart D (Contingency plan and emergency procedures), §§ 264.51–264.56;

(5) In Subpart E (Manifest system, recordkeeping, and reporting), §§ 264.71–264.77, except that §§ 264.71, 264.72, and 264.76 do not apply to owners and operators of on-site facilities that do not receive any hazardous waste from off-site sources;

(6) In Subpart F (Corrective Action), §§ 264.90 and 264.101.

(7) In Subpart G (Closure and post-closure), §§ 264.111–264.115; and

(8) In Subpart H (Financial requirements), §§ 264.141, 264.142, 264.143, and 264.147–264.151, except that States and the Federal government are exempt from the requirements of Subpart H.

§ 266.34–2 Hazardous waste analysis.

(a) The owner or operator must provide an analysis of the hazardous waste that quantifies the concentration of any constituent identified in Appendix VIII of Part 261 of this chapter that may reasonably be expected to be in the waste. Such constituents must be identified and quantified if present, at levels detectable by analytical procedures prescribed by EPA Publication SW–846 referenced in § 260.11 of this chapter. This analysis

will be used to provide all information required by this section and §§ 270.22 and 270.65 of this chapter and to enable the permit writer to prescribe such permit conditions as necessary to protect human health and the environment under authority of section 3005(c) of the Hazardous and Solid Waste Amendment (HSWA). Such analysis must be included as a portion of the Part B permit application, or, for facilities operating under the interim status standards of § 266.35, as a portion of the trial burn plan that may be submitted before the Part B application under provisions of § 270.65(d) of this chapter as well as any other analysis required by the permit authority in preparing the permit. Owners and operators of boilers and industrial furnaces not operating under the interim status standards of § 266.35 must provide the information required by §§ 270.22 or 270.65(c) of this chapter to the greatest extent possible.

(b) Throughout normal operation, the owner or operator must conduct sufficient analyses to ensure that the hazardous waste fired to the boiler or industrial furnace is within the physical and chemical composition limits specified in his permit.

§ 266.34–4 Standards to control emissions.

A boiler or industrial furnace burning hazardous waste must be designed, constructed, and maintained so that, when operated in accordance with operating requirements specified under § 266.34–6, it will meet the following standards:

(a) *Organic emissions.* A boiler or industrial furnace burning hazardous waste must meet the DRE performance standard of paragraph(a)(1) of this subsection and the stack gas carbon monoxide standard of paragraph (a)(2) of this section, except as provided by paragraph(a)(3) of this section. A boiler operated under the special conditions provided by paragraph (a)(4) of this section is deemed to be in compliance with the DRE performance standard of paragraph (a)(1) of this section without conducting a trial burn.

(1) *DRE standard.* (i) Except as provided in paragraph (a)(1)(iii) of this section, a boiler or industrial furnace burning hazardous waste must achieve a destruction and removal efficiency (DRE) of 99.99% for each principal organic hazardous constituent (POHC) designated (underparagraph (a)(1)(ii) of this section) in its permit for each hazardous equation:

$$DRE = \frac{W_{in} - W_{out}}{W_{in}} \times 100\%$$

where:

W_{in} = Mass feed rate of one principal organic hazardous constituent (POHC) in the hazardous waste fired to the boiler or industrial furnace, and

W_{out} = Mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(ii) Principal organic hazardous constituents (POHCs) are designated as follows:

(A) One or more POHCs will be specified in the facility's permit, from among those constituents listed in Part 261, Appendix VIII of this chapter, for each hazardous waste to be burned. This specification will be based on the degree of difficulty of combustion of the organic constituents in the hazardous waste and on their concentration or mass in the hazardous waste, considering the results of hazardous waste analyses and trial burns or alternative data submitted with Part B of the facility's permit application. Organic constituents which represent the greatest degree of difficulty of combustion will be those most likely to be designated as POHCs. Constituents are more likely to be designated as POHCs if they are present in large quantities or concentrations in the waste.

(B) Trial POHCs will be designated for performance of trial burns in accordance with the procedure specified in § 270.65 of this chapter for obtaining trial burn permits.

(iii) A boiler or industrial furnace burning hazardous waste containing (or derived from) EPA hazardous wastes F020, F021, F022, F023, F026, or F027 must achieve a destruction and removal efficiency (DRE) of 99.9999% for each principal organic hazardous constituent (POHC) designated (under paragraph (a)(1)(ii) of this section) in its permit. This performance must be demonstrated on POHCs that are more difficult to burn than tetra-, penta-, and hexachlorodibenzo-*p*-dioxins and dibenzofurans. DRE is determined for each POHC from the equation in paragraph (a)(1) of this section. In addition, the owner or operator of the boiler or industrial furnace must notify the Regional Administrator of his intent to burn EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, or F027.

(2) *Carbon monoxide standard.* (i) A boiler or industrial furnace burning hazardous waste must be operated so that carbon monoxide (CO) levels in the stack gas do not exceed the time-weighted average limits provided below. If a limit is exceeded, the hazardous waste feed must be shutoff within the time specified:

CO limit (7 percent O_2)	If exceeded, shutoff hazardous waste feed:
100 ppm average over any 60 minute period.	Within 10 minutes
500 ppm average over any 10 minute period.	Immediately

When the stack gas oxygen content differs from 7 percent, measured CO levels must be corrected to those levels that would result if the stack gas oxygen content were 7 percent.

(ii) Hazardous waste burning may not resume until the device has resumed steady-state (normal) operations as evidenced by maintaining a time-weighted average carbon monoxide (CO) level not to exceed 100 ppm for an averaging period of not less than 10 minutes nor more than 60 minutes.

(iii) If the CO limits provided by paragraph (a)(2)(i) of this section are exceeded an aggregate of 10 times in a calendar month, the owner or operator:

(A) Must cease burning hazardous waste;

(B) Must notify the Regional Administrator in writing within 5 calendar days; and

(C) May not resume burning hazardous waste unless and until written authorization is received from the Regional Administrator.

(iv) Carbon monoxide and oxygen levels in the stack gas must be monitored in accordance with § 266.34–7.

(v) The boiler or industrial furnace must be operated with a functioning system that automatically cuts off the hazardous waste feed when the 500 ppm, 10 minute time-weighted average CO limit is exceeded.

(3) *Provision for low risk waste.* The DRE and CO standards of paragraphs (a)(1) and (a)(2) of this section do not apply if the boiler or industrial furnace is operated in conformance with paragraph (a)(3)(i) of this section, and the owner or operator demonstrates by emissions modeling in conformance with paragraph (a)(3)(ii) of this section that the burning will not result in significant adverse health effects.

(i) The device is operated as follows:

(A) A minimum of 50 percent of the fuel fired to the device is one or more of the fossil fuels: oil, natural gas, or coal, or fuels derived from those fossil fuels. The fossil fuel firing rate must be determined on a total heat or volume

input basis, whichever results in the smaller volume of fossil fuel fired:

(B) The hazardous waste has an as-fired heating value of at least 8,000 Btu/lb; and

(C) The hazardous waste is fired directly into the flame zone of the combustion chamber.

(ii) The burning will be considered to result in insignificant adverse health effects if the owner or operator conducts the following demonstrations in conformance with the procedures prescribed in "Guidelines for Permit Writers: Permitting Hazardous Waste Combustion Facilities Using Risk Assessment" (incorporated by reference, see § 260.11 of this chapter). This document is herein referred to as the Risk Assessment Guideline (RAG).

(A) Identify and quantify those organic constituents listed in Appendix VIII of 40 CFR Part 261 that could reasonably be expected to be in the hazardous waste. To be eligible for the waiver, every Appendix VIII organic constituent identified in the waste must be listed in the RAG where a reference air concentration (RAC) for noncarcinogenic compounds or a risk specific dose (RSD) carcinogenic compound is provided. (The owner or operator may petition the Administrator under provisions provided by § 260.20 of this chapter to list other hazardous constituents in the RAG or to revise RACs or RSDs for compounds listed in the RAG. Such petitions must include supporting health effects data.)

(B) Calculate reasonable, worst-case emission rates for each constituent identified in paragraph (a)(3)(ii)(A) of this section by assuming the device achieves a 99 percent destruction and removal efficiency:

(C) Calculate reasonable, worst case emission rates of products of incomplete combustion (PICs) for each constituent identified in paragraph (a)(3)(ii)(A) of this section under procedures prescribed in the RAG.

(D) For noncarcinogenic constituents, use emissions modeling in conformance with § 270.22 of this chapter to demonstrate that emissions do not result in an exceedance of the reference air concentrations (RACs) established by the RAG.

(E) For carcinogenic constituents, use emission modeling in conformance with § 270.22 of this chapter and the risk-specific doses identified in the RAG to demonstrate that emissions of the carcinogenic constituents and emissions of PICs estimated in conformance with paragraphs (a)(3)(ii) (B) and (C) of this section do not result in maximum off-site annual average ground level concentrations that would pose an aggregate risk to an exposed individual of greater than 1×10^{-5} (1 in 100,000) using the following equation:

$$\sum_{i=1}^{N} \frac{C_{ci}}{RSD_{ci}} + \frac{C_p}{RSD_p} \leq 1$$

where:

$\sum_{i=1}^{N}$ means the sum of all values for all carcinogenic constituents, from the first constituent, 1, to the Nth constituent, N.

C_{ci} means predicted maximum annual average ground level concentration of constituent, i, in ug/m^3.

RSD_{ci} means risk-specific dose at 10^{-5} risk for constituent, i, in ug/m^3.

C_p means predicted maximum annual average ground level concentration of PICs, in ug/m^3.

RSD_p means risk-specific dose at 10^{-5} risk for PICs, in ug/m^3.

(4) *Boilers operated under special operating requirements in lieu of a trial burn.* Boilers operated under the following special operating requirements, and that do not burn hazardous waste containing (or derived from) EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, or F027, are considered to be in conformance with the organic emissions performance standard of § 266.34–4(a), and a trial burn to demonstrate DRE is waived. When burning hazardous waste:

(i) A minimum of 50% of the fuel fired to the boiler is any of the following fossil fuels: oil, natural gas, or coal, or fuels derived from those fossil fuels. The fossil fuel firing rate must be determined on a total heat or volume input basis, whichever results in the smaller volume of fossil fuel fired;

(ii) Boiler load is equal to or greater than 25%. Boiler load is the ratio at any time of the total heat input to the maximum design heat input;

(iii) The hazardous waste has an as-fired heating value of at least 8,000 Btu/lb; and

(iv) The hazardous waste is fired directly into the flame zone of the combustion chamber with an air or steam atomization firing system, a mechanical atomization system, or a rotary cup atomization system under the following restrictions on the as-fired viscosity and maximum particle size of the hazardous waste:

Atomization system	Hazardous waste viscosity limits	Hazardous waste maximum particle size (mesh)
High pressure air or steam atomization (>30 psig).	150 to 5,000 SSU	200
Low pressure air or steam atomization (<30 psig).	200 to 1,500 SSU	200
Mechanical atomization.	<150 SSU	200
Rotary cup atomization.	175 to 300 SSU	100

SSU: Seconds, Saybolt Universal.

(A) *Mechanical atomization systems.* Fuel pressure within a mechanical atomization system and fuel flow rate must be maintained within the design range taking into account the viscosity and volatility of the fuel.

(B) *Rotary cup atomization systems.* Fuel flow rate through a rotary cup atomization system must be maintained within the design range taking into account the viscosity and volatility of the fuel.

(v) Stack gas carbon monoxide levels do not exceed the standard provided by § 266.34–4(a)(2).

(b) *Metals.* The owner or operator must comply with the metals controls provided by paragraphs (b)(1), (b)(2), (b)(3), or (b)(4) of this section. Standards are provided in each of those paragraphs according to the type and location of the device. Devices located where any part of the surrounding terrain within 20 kilometers of the stack equals or exceeds the elevation of the stack are considered to be in complex terrain and the complex terrain standards apply. For the purpose of this determination, the stack may not exceed good engineering practice as specified in 40 CFR Part 51. All other devices are considered to be in flat terrain and flat terrain standards apply. The standards apply to a single site and are not to be exceeded at any time. If there is more than one device on a site, the limits for the largest device must be apportioned among the devices based on the thermal capacity of the devices at the site. The following definitions apply:

(As) Means level of total arsenic in pounds/million Btu;

(Cd) Means level of total cadmium in pounds/million Btu;

(Cr+6) Means level of hexavalent chromium in pounds/million Btu; and

(Pb) Means level of lead in pounds/million Btu

(1) *Tier I.* The hazardous waste must not contain arsenic, cadmium, chromium, and lead at levels greater than allowed by paragraphs (b)(3) (i) or (ii) of this section. The concentration limits are based on the heating value of the hazardous waste in terms of pounds of metal per million Btu of waste heating value (lb/MM Btu). The limits apply to the hazardous waste directly or as-fired after any blending with other waste or fuel. Hazardous waste exceeding any specification level is "off-specification". For purposes of compliance with this paragraph with respect to chromium, total chromium levels rather than hexavalent chromium levels must be considered in applying the limits provided by paragraphs (b)(3) (i) and (ii) of this section; or

(2) *Tier II.* The feed rate of arsenic, cadmium, chromium, and lead to the device considering the metals contained in the hazardous waste, other fuels, and industrial furnace feedstocks shall not exceed limits resulting from applying the limits provided by paragraphs (b)(3) (i) or (ii) of this section as follows:

(i) For each metal, use the following equation to determine the feed rate of the metal to the device in terms of lb/MM Btu of total heat input:

$$MFR = \frac{Mw \times Rw + \sum_{i=1}^{N} M_{Fi} \times R_{Fi} + \sum_{j=1}^{N} M_{FSj} \times R_{FSj}}{H_T} \times 10^{-6}$$

Where:

MFR means the individual metal feed rate in pounds/million Btu of total heat input to the device.

Mw means individual metal concentration in the hazardous waste in ppm.

Rw means the hazardous waste feed rate in pounds/hour.

$\sum_{i=1}^{N}$ means the sum of all values for the other fuels (other than hazardous waste) from, i=1, to the Nth fuel.

M_{Fi} means the concentration of metal in the other fuel, Fi, in ppm.

R_{Fi} means the feed rate for the other fuel, Fi, in pounds/hour.

$\sum_{j=1}^{N}$ means, for industrial furnaces, the sum of all the values for all feedstocks from the first, j=1, to the Nth feedstock.

M_{FSj} means the concentration of metal in the feedstock, FSj, in ppm.

R_{FSj} means the quantity of feedstock, FSj, charged to the industrial furnace in pounds/hour.

H_T means the total heat input to the device in million Btu/hour.

and

(ii) Use the feed rates determined by paragraph (b)(2)(i) of this section in lieu of metals emission rates to show that the limits provided by paragraphs (b)(3)(i) and (ii) of this section are not exceeded. For purposes of compliance with this paragraph with respect to chromium, the total chromium feed rate determined by this paragraph is to be considered in lieu of hexavalent chromium when applying the limits provided by paragraphs (b)(3) (i) and (ii).

;or

(3) *Tier III.* Stack emission rates of each of the following metals must not exceed the limits specified below. The limits are based on the instantaneous total heat input to the device.

(i) Flat terrain standards:

(A) *Category 1:* Sulfur recovery furnaces, asphaltic concrete kilns, blast furnaces, and halogen acid furnaces:

$$\frac{(As)}{1.0 \times 10^{-4}} + \frac{(Cd)}{2.5 \times 10^{-4}} + \frac{(Cr+6)}{3.7 \times 10^{-5}} \leq 1.0$$

(Pb) shall not exceed 4.1×10^{-3} pounds/million Btu.

(B) *Category 2:* Light-weight aggregate kilns, lime kilns, and boilers:

$$\frac{(As)}{3.9 \times 10^{-4}} + \frac{(Cd)}{9.8 \times 10^{-4}} + \frac{(Cr+6)}{1.4 \times 10^{-4}} \leq 1.0$$

(Pb) shall not exceed 1.6×10^{-2} pounds/million Btu.

(C) *Category 3:* Cement kilns, wet and dry:

$$\frac{(As)}{1.7 \times 10^{-3}} + \frac{(Cd)}{4.3 \times 10^{-3}} + \frac{(Cr+6)}{6.3 \times 10^{-4}} \leq 1.0$$

(Pb) shall not exceed 6.7×10^{-2} pounds/million Btu.

(ii) Complex terrain standards:

(A) *Category 1:* Blast furnaces:

$$\frac{(As)}{1.3 \times 10^{-5}} + \frac{(Cd)}{3.3 \times 10^{-5}} + \frac{(Cr+6)}{4.9 \times 10^{-5}} \leq 1.0$$

(Pb) shall not exceed 5.3×10^{-4} pounds/million Btu.

(B) *Category 2:* Sulfur recovery furnaces:

$$\frac{(As)}{3.9 \times 10^{-5}} + \frac{(Cd)}{9.9 \times 10^{-5}} + \frac{(Cr+6)}{1.4 \times 10^{-4}} \leq 1.0$$

(Pb) shall not exceed 1.6×10^{-3} pounds/million Btu.

(C) *Category 3:* Asphatic concrete kilns, boilers, light-weight aggregate kilns, lime kilns, and halogen acid furnaces:

$$\frac{(As)}{5.9 \times 10^{-5}} + \frac{(Cd)}{1.6 \times 10^{-4}} + \frac{(Cr+6)}{2.2 \times 10^{-4}} \leq 1.0$$

(Pb) shall not exceed 2.4×10^{-3} pounds/million Btu.

(D) *Category 4:* Cement kilns, wet and dry processes:

$$\frac{(As)}{1.2 \times 10^{-4}} + \frac{(Cd)}{3.0 \times 10^{-4}} + \frac{(Cr+6)}{4.5 \times 10^{-4}} \leq 1.0$$

(Pb) shall not exceed 4.7×10^{-3} pounds/million Btu.

:or

(4) *Tier IV.* For arsenic, cadmium, and chromium, the sum of the products of the predicted maximum off-site annual average ground level concentration times the unit risk for each metal shall not exceed 1.0. Unit risk values are provided in the RAG. For lead, the predicted maximum quarterly average ground level concentration shall not exceed 0.15 $\mu g/m^3$. Conformance with this standard is demonstrated by dispersion modeling of stack emissions in conformance with § 270.22(d) of this chapter. All boilers and furnaces not specifically identified in paragraphs (b)(1), (b)(2), or (b)(3) of this section must comply with the requirements of this paragraph.

(c) *Hydrogen chloride (HCl).* The owner or operator must comply with the hydrogen chloride (HCl) controls provided by paragraphs (c)(1), (c)(2), (c)(3), or (c)(4) of this section. Standards are provided in each of those paragraphs according to the type and location of the device. Devices located where any part of the surrounding terrain within 20 kilometers of the stack equals or exceeds the elevation of the stack are considered to be in complex terrain and the complex terrain standards apply. For the purpose of this determination, the stack may not exceed good engineering practice as specified in 40 CFR Part 51. All other devices are considered to be in flat terrain and flat terrain standards apply. The standards apply to a single site and are not to be exceeded at any time. If there is more than one device on a site, the limits for the largest device must be apportioned among the devices based on the thermal capacity of the devices at the site.

(1) *Tier I.* The hazardous waste must not contain chlorine at levels greater than allowed by paragraph (c)(3) (i) or (ii) of this subsection. The concentration limits are based on the heating value of the hazardous waste in terms of pounds of chlorine per million Btu of waste heating value (lb/MM Btu). The limits apply to the hazardous waste directly or as-fired after any blending with other waste or fuel. Hazardous waste exceeding the specification level is "off-specification".

(2) *Tier II.* The feed rate of chlorine to the device considering the chlorine contained in the hazardous waste, other fuels, and industrial furnace feedstock shall not exceed limits provided by paragraphs (c)(3) (i) and (ii) of this section as follows:

(i) Use the following equation to determine the feed rate of chlorine to the device in terms of lb/MM Btu of total heat input:

$$CFR = \frac{Cw \times Rw + \sum_{i=1}^{N} C_{Fi} \times R_{Fi} + \sum_{j=1}^{N} C_{FSj} \times R_{FSj}}{H_T} \times 10^{-6}$$

Where:

CFR means total chlorine feed rate in pounds/MM Btu of total heat input to the device.

Cw means chlorine concentration in the hazardous waste in ppm.

Rw means the hazardous waste feed rate in pounds/hour.

$\sum_{i=1}^{N}$ means the sum of all values for the other fuels (other than hazardous waste) from, i=1, to the Nth fuel.

C_{Fi} means the chlorine concentration in the other fuel, Fi, in ppm.

R_{Fi} means the feed rate of the other fuel, Fi, in pounds/hour.

$\sum_{j=1}^{N}$ means, for industrial furnaces, the sum of all of the values for all feedstocks from the first, j=1, to the Nth feedstock.

C_{FSi} means the chlorine concentration in feedstock, FSi, in ppm.

R_{FSi} means the quantity of feedstock, FSi, charged to the industrial furnace in pounds/hour.

H_T means the total heat input to the device in million Btu/hr.

and

(ii) Use the feed rates determined by paragraph (c)(2)(i) of this section in lieu of the chlorine emission rates to show that the limits provided by paragraphs (c)(3) (i) or (ii) of this section are not exceeded.

; or

(3) *Tier III.* The stack emission rate of HCl must not exceed the limits specified below. The limits are based on the instantaneous total heat input to the device.

(i) Flat terrain standards:

(A) *Category 1:* Sulfur recovery furnaces and halogen acid furnaces: 0.18 lb/million BTU.

(B) *Category 2:* Blast furnaces and asphaltic concrete kilns: 0.32 lb/million BTU.

(C) *Category 3:* Light-weight aggregate kilns, boilers, and lime kilns: 0.70 lb/million BTU.

(D) *Category 4:* Cement kilns, wet and dry: 1.8/million BTU.

(ii) Complex terrain standards:

(A) *Category 1:* Blast furnaces: 2.5×10^{-2} lb/million BTU.

(B) *Category 2:* Sulfur recovery furnaces: 4.1×10^{-2} lb/million BTU.

(C) *Category 3:* Asphaltic concrete kilns, light-weight aggregate kilns, boilers, halogen acid furnaces, and lime kilns: 7.3×10^{-2} lb/million BTU.

(D) *Category 4:* Cement kilns, wet and dry processes: 0.21 lb/million BTU.

(4) *Tier IV.* The predicted maximum off-site annual average and maximum off-site 3-minute ground level concentrations of HCl attributable to stack emissions from the boiler or industrial furnace must not exceed 15 $\mu g/m^3$ and 150 $\mu g/m^3$, respectively. Conformance with this standard is demonstrated by dispersion modeling of stack emission in conformance with § 270.22(e) of this chapter. All boilers and industrial furnaces not specifically identified in paragraphs (c)(1), (c)(2), or (c)(3) of this section must comply with the requirements of this paragraph.

(d) For purposes of permit enforcement, compliance with the operating requirements specified in the permit (under § 266.34–6) will be regarded as compliance with this subsection. However, evidence that compliance with those permit conditions is insufficient to ensure compliance with the requirements of this subsection may be "information" justifying modification, revocation, or reinsurance of a permit under § 270.41 of this chapter.

§ 266.34–5 Permits.

(a) The owner or operator of a boiler or industrial furnace may burn only hazardous wastes specified in his permit and only under the operating conditions specified for those hazardous wastes under § 266.34.6, except in approved trial burns under the conditions specified in § 270.65 of this chapter.

(b) Other hazardous wastes may be burned only under a new permit or permit modification, as applicable, that specifies the operating requirements as provided by § 266.34 6.

(c) Boilers and industrial furnaces operating under the interim status standards of § 266.35 are permitted under procedures provided by § 270.65 of this chapter.

(d) A permit for new boilers and industrial furnaces (those boilers and industrial furnaces not operating under the interim status standards of § 266.35) must establish appropriate conditions for each of the applicable requirements of this subsection, including but not limited to allowable hazardous waste firing rates and operating conditions necessary to meet the requirements of § 266.34–6, sufficient to comply with the following standards:

(1) Boilers that will be permitted without conducting a trial burn because they operate under the special operating conditions provided by § 266.34–4(a)(4) (that ensure compliance with the organic emissions standard), and burn hazardous waste containing metals and chlorine at concentrations in conformance with the limits provided by §§ 266.34–4(b) (1) or (2) and 266.34–4(c) (1) or (2) (that ensure compliance with the metals and hydrogen chloride standards) are subject to the following permits and are said to be operating under Special Operating Requirements:

(i) For the period beginning with initial introduction of hazardous waste to the boiler and for the minimum time required, not to exceed a duration of 720 hours operating time when burning hazardous waste, to bring the boiler to a point of operational readiness, the boiler must be operated in conformance with the Standard Operating Requirements. The Regional Administrator may extend the duration of this period once for up to 720 additional hours when good cause for the extension is demonstrated by the aplicant.

(ii) For the period immediately after completion of the first period of operation and only for the minimum period sufficient to allow sample analysis, data computation, and submission of the results by the applicant demonstrating conformance with the Special Operating Requirements, the boiler is subject to the Special Operating Requirements.

(iii) For the remaining duration of the permit, the boiler is subject to the Special Operating Requirements. If the hazardous waste is off-specification for metals or chlorine, the Regional Administrator will specify limitations, as appropriate, on the metals and chlorine content, heating value, and feed rates of the hazardous waste, and other fuels necessary to ensure compliance with §§ 266.34–4(b)(2) or 266.34(c)(2).

(2) For boiler and industrial furnaces that will be permitted without conducting a trial burn under the provision for low risk provided by § 266.34–4(a)(3) and which burn hazardous waste containing metals and chlorine at concentrations in conformance with the limits provided by §§ 266.34–4(b) (1) or (2) and 266.34–4(c) (1) or (2), the permit must:

(i) Incorporate the special operating requirements provided by § 266.34–4(a)(3)(i); and

(ii) Specify feed rate limits (lb/hr) for each Appendix VIII organic constituent in the hazardous waste consistent with the requirements of § 266.34–4(a)(3)(ii).

(3) For boilers and industrial furnaces that will be permitted based on a trial burn:

(i) For the period beginning with initial introduction of hazardous waste and ending with initiation of the trial burn, and only for the minimum time required to bring the device to a point of operational readiness to conduct a trial burn, not to exceed a duration of 720 hours operating time when burning hazardous waste the operating requirements must be those most likely to ensure compliance with the standards of § 266.34–4, based on the Regional Administrator's engineering judgment. The Regional Administrator may extend the duration of this period for up to 720 additional hours when good cause for the extension is demonstrated by the applicant.

(ii) For the duration of the trial burn, the operating requirements must be sufficient to demonstrate compliance with the standards of § 266.34–4 and must be in accordance with the approved trial burn plan;

(iii) For the period immediately following completion of the trial burn, and only for the minimum period sufficient to allow sample analysis, data computation, and submission of the trial burn results by the applicant, and review of the trial burn results and modification of the facility permit by the Regional Administrator to reflect the trial burn results, the operating requirements must be those most likely to ensure compliance with the standards of § 266.34–4, based on the Regional Administrator's engineering judgment.

(iv) For the remaining duration of the permit, the operating requirements must be those demonstrated in a trial burn or by alternative data specified in § 270.22 of this chapter, as sufficient to ensure compliance with the standards of § 266.34–4.

§ 266.34–6 Operating requirements.

(a) *General.* A boiler or industrial furnace burning hazardous waste must be operated in accordance with the operating requirements specified in the permit.

(b) *Specific requirements to ensure compliance with the organic emissions standards*—(1) *Carbon monoxide standard.* The permit must incorporate the stack gas carbon monoxide (CO) standard provided by § 266.34–4(a)(2).

(2) *DRE standard.* Operating conditions will be specified on a case-by-case basis for each hazardous waste burned as those demonstrated (in a trial burn or by alternative data as specified in § 270.22) to be sufficient to comply with the destruction and removal efficiency (DRE) performance standard of § 266.34–4(a)(1), except as provided by paragraph (b)(4) of this subsection. Each set of operating requirements will specify the composition of the hazardous waste (including acceptable variations in the physical or chemical properties of the hazardous waste which will not affect compliance with the DRE performance standard) to which the operating requirements apply. For each such hazardous waste, the permit will specify acceptable operating limits including the following conditions as appropriate:

(i) Hazardous waste feed rate;

(ii) Type and feed rate of other fuels with which the hazardous waste is cofired;

(iii) Type and feed rate of industrial furnace feedstocks when hazardous waste is burned;

(iv) Minimum boiler load or industrial furnace production rate;

(v) Appropriate controls on operation and maintenance of the hazardous waste firing system;

(vi) Allowable variation in boiler and industrial furnace system design or operating procedures; and

(vii) Such other operating requirements as are necessary to ensure that the DRE performance standard of § 266.34–4(a)(1) is met.

(3) *Start-up and shut-down.*

(i) A boiler or industrial furnace may not burn hazardous waste during start-up. Hazardous waste may be burned after the device has reached steady-state (normal) operations as evidenced by maintaining a time-weighted average carbon monoxide (CO) level in the flue gas not to exceed 100 ppm for an averaging period of not less than 10 minutes nor more than 60 minutes.

(ii) A boiler or industrial furnace may not burn hazardous waste during shut-down.

(4) For boilers that will be permitted without conducting a trial burn because they operate under the special operating requirements provided by § 266.34–4(a)(4) (that ensure compliance with the organic emission standard) and burn hazardous waste containing metals and chlorine at concentrations in conformance with the limits provided by §§ 266.34–4(b) (1), (2), or (3) and 266.34–4(c) (1), (2), or (3), the permit must include operating requirements that ensure conformance with each special operating requirement provided by § 266.34–4(a)(4) and the metals and chlorine limits of §§ 266.34–4(b) (1) or (2) and 266.34–4(c) (1) or (2).

(5) For boilers and industrial furnaces that will be permitted without conducting a trial burn under the provision for low risk waste provided by § 266.34–4(a)(3) and which burn hazardous waste containing metals and chlorine at concentrations in conformance with the limits provided by §§ 266.34–4(b) (1) or (2) and 266.34–4(c) (1) or (2), the permit must include operating requirements that ensure conformance with each special condition provided by § 266.34–4(a)(3)(i) and the metals and chlorine limits of §§ 266.34–4(b) (1) or (2) and 266.34–4(c) (1) or (2).

(c) *Specific operating requirements to ensure conformance with the metals standards provided by § 266.34–4(b).* (1)

For conformance with the Tier I metals specification standard provided by § 266.34–4(b)(1), the permit will specify the following operating requirements:

(i) Hazardous waste feed rate;

(ii) Metals levels in the hazardous waste; and

(iii) A hazardous waste sampling and metals analysis program.

(2) For conformance with the Tier II metals feed rate standard provided by § 266.34–4(b)(2), the permit will specify the following operating requirements:

(i) Hazardous waste feed rate;

(ii) Type and feed rate of other fuels and industrial furnace feedstocks with which the hazardous waste is burned;

(iii) Levels of metals in the hazardous waste, other fuels, and industrial furnace feedstocks; and

(iv) A sampling and metals analysis program for the hazardous waste, other fuels, and industrial furnace feedstocks.

(3) For conformance with the Tier III metals emission rates provided by § 266.34–4(b)(3), and the Tier IV metals ground level concentrations provided by § 266.34–4(b)(4), the permit will specify the following operating requirements:

(i) The requirements provided by paragraphs (c)(2)(i)–(iv) of this section;

(ii) Operation and maintenance of emissions control equipment sufficient to maintain removal efficiencies achieved during the trial burn; and

(iii) Such other operating requirements as are necessary to ensure that the metals standard is met.

(d) *Specific operating requirements to ensure conformance with the hydrogen chloride standards provided by § 266.34–4(c).* (1) For conformance with the Tier I chlorine specification standard provided by § 266.34.4(c)(1), the permit will specify the following requirements:

(i) Hazardous waste feed rate;

(ii) Total chlorine level in the hazardous waste; and

(iii) A hazardous waste sampling and chlorine analysis program.

(2) For conformance with the Tier II chlorine feed rate standard provided by § 266.34–4(c)(2), the permit will specify the following operating requirements:

(i) Hazardous waste feed rate;

(ii) Type and feed rate of other fuels and industrial furnace feedstocks with which the hazardous waste is burned;

(iii) Levels of chlorine in the hazardous waste, other fuels, and industrial furnace feedstocks; and

(iv) A sampling and chlorine analysis program for the hazardous waste, other fuels, and industrial furnace feedstocks.

(3) For conformance with the Tier III hydrogen chloride (HCl) emissions rates provided by § 266.34–4(b)(3), and the Tier IV HCl ground level concentrations provided by § 266.34–4(c)(4), the permit will specify the following operating requirements:

(i) The requirements provided by paragraphs (d)(2)(i)–(iv) of this section;

(ii) Operation and maintenance of emissions control equipment sufficient to maintain removal efficiencies achieved during the trial burn; and

(iii) Such other operating requirements as are necessary to ensure that the HCl standards are met; and

(e) *General requirements*—(1) *Fugitive emissions.* Fugitive emissions from the combustion zone when burning hazardous waste must be controlled by:

(i) Keeping the combustion zone totally sealed against fugitive emissions;

(ii) Maintaining a combustion zone pressure lower than atmospheric pressure; or

(iii) An alternate means of control demonstrated (with Part B of the permit application) to provide fugitive emissions control equivalent to maintenance of combustion zone pressure lower than atmospheric pressure.

(2) *Automatic cutoff.* A boiler or industrial furnace must be operated with a functioning system that automatically cuts off the hazardous waste feed when operating conditions deviate from those established under this subsection.

(3) *Changes.* A boiler or industrial furnace must cease burning hazardous waste when changes in composition, properties, or feed rates of the hazardous waste, other fuels, or industrial furnace feedstocks, or changes in the boiler or industrial furnace design or operating conditions exceed the limits designated in its permit.

§ 266.34–7 Monitoring and inspections.

(a) The owner or operator must monitor and record the following, as a minimum, while burning hazardous waste:

(1) Hazardous waste feed rate, and, if required by the permit, the feed rate of other fuels and industrial furnace feedstocks.

(2) Carbon monoxide (CO) and oxygen on a continuous basis at a common point in the boiler or industrial furnace downstream of the combustion zone and prior to release of stack gases to the atmosphere. CO and oxygen monitors must be installed, operated, and maintained in accordance with *Guideline for Continuous Monitoring of Carbon Monoxide at Hazardous Waste Incinerators, Appendix D,* PES, January 1987.

(3) Upon the request of the Regional Administrator, sampling and analysis of the hazardous waste (and other fuels and industrial furnace feedstocks as appropriate) and exhaust emissions must be conducted to verify that the operating requirements established in the permit achieve the standards of § 266.34–4.

(b) The boiler or industrial furnace and associated equipment (pumps, valves, pipes, fuel storage tanks when they contain hazardous waste, etc.) must be subjected to thorough visual inspection, at least daily when hazardous waste is burned, for leaks, spills, fugitive emissions, and signs of tampering.

(c) The emergency hazardous waste feed cutoff system and associated alarms must be tested at least weekly when hazardous waste is burned to verify operability, unless the applicant demonstrates to the Regional Administrator that weekly inspections will unduly restrict or upset operations and that less frequent inspections will be adequate. At a minimum, operational testing must be conducted at least monthly.

(d) These monitoring and inspection data must be recorded and the records must be placed in the operating log required by § 264.73 of this chapter.

§ 266.34–8 Closure.

At closure, the owner or operator must remove all hazardous waste and hazardous waste residues (including, but not limited to, ash, scrubber waters, and scrubber sludges) from the boiler or industrial furnace site.

§ 266.35 Interim status standards for owners and operators of facilities that burn hazardous waste in a boiler or industrial furnace.

§ 266.35–1 Applicability.

(a) *General.* The purpose of this section is to establish minimum national standards for owners and operators of facilities that burn hazardous waste in boilers or industrial furnaces where such standards define the acceptable management of hazardous waste during the period of interim status and until certification of final closure. The standards of this section apply to owners and operators of facilities that are in existence on the effective date of this section until either a permit is issued under § 266.34 or until the closure responsibilities identified in this section are fulfilled.

Note.—A boiler or industrial furnace is "in existence" if it was burning hazardous waste or was under construction that would enable it to burn hazardous waste on or before the effective date of § 266.35. A facility has commenced construction if it meets the conditions provided by paragraphs (1) and (2) of the definition of "Existing hazardous waste

management (HWM) facility" in § 260.10 of this chapter. If the boiler or industrial furnace is located at a facility that already has a permit or interim status, then the facility must comply with the applicable regulations dealing with modifications in §§ 270.41 and 42 of this chapter.

(b) *Exemptions.* The requirements of this section do not apply to:

(1) Hazardous waste exempt under § 266.30(b); and

(2) *Small quantity on-site burners.* Owners and operators of facilities that burn hazardous waste that they generate in an on-site boiler and industrial furnace are exempt from the requirements of this section provided that they meet the requirements of § 266.34–1(b).

(c) *Prohibition on burning dioxin-containing wastes.* Hazardous waste containing or derived from any of the following dioxin-containing waste may not be burned in a boiler or industrial furnace operating under the interim status standards of this section: EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027.

(d) *Applicability of Part 265 standards.* Owners and operators of boilers and industrial furnaces that burn hazardous waste are subject to the following provisions of Part 265 of this chapter, except as provided otherwise by this subsection:

(1) In Subpart A (General), § 265.4;

(2) In Subpart B (General facility standards), §§ 265.11–265.17;

(3) In Subpart C (Preparedness and prevention), §§ 265.31–265.37;

(4) In Subpart D (Contingency plan and emergency procedures), §§ 265.51–265.56;

(5) In Subpart E (Manifest system, recordkeeping, and reporting), §§ 265.71–265.77, except that §§ 265.71, 265.72, and 265.76 do not apply to owners and operators of on-site facilities that do not receive any hazardous waste from off-site sources;

(6) In Subpart G (Closure and post-closure), §§ 265.111–265.115; and

(7) In Subpart H (Financial requirements), §§ 265.141, 265.143, and 265.147–265.151, except that States and the Federal government are exempt from the requirements of Subpart H.

§ 266.35–2 Hazardous waste analysis.

(a) In addition to the waste analyses required by § 265.13 of this chapter, the owner or operator must sufficiently analyze any hazardous waste that he has not previously burned in his boiler or industrial furnace to enable him to establish steady-state (normal) operating conditions and to comply with the stack gas carbon monoxide standard and metals and hydrogen chloride standards provided by § 266.35–3.

(b) The owner or operator must sufficiently analyze the hazardous waste that he burns to determine the type of pollutants that might be emitted. At a minimum, the analysis must determine:

(1) Heating value of the hazardous waste, as fired;

(2) Concentrations in the hazardous waste itself, or, as fired after blending with other waste or fuel, of arsenic, cadmium, chromium, and lead, unless the owner or operator has written, documented data that show that the metal is not present; and

(3) Chlorine content of the hazardous waste itself, or, as fired.

Note.—As required by § 265.73 of this chapter, the owner or operator must place the results from each waste analysis, or the documented information in the operating record of the facility.

§ 266.35–3 Operating requirements.

(a) A boiler or industrial furnace burning hazardous wastes under this subsection shall meet and demonstrate compliance with the metals and hydrogen chloride standards provided in § 266.34–4 (b) and (c).

(b) *Carbon monoxide standard.* (1) Except as provided by paragraph (b)(2) of this subjection, a boiler or industrial furnace burning hazardous waste must be operated in conformance with the carbon monoxide (CO) standards provided by § 266.34–4(a)(2).

(2) Owners and operators who submit a Part B application six months prior to the effective date of the carbon monoxide monitoring requirement of this paragraph and who claim to demonstrate that the hazardous waste is a low risk waste under provisions of § 266.34–4(a)(3) (and not subject to CO monitoring or the DRE performance standard) are not subject to the CO monitoring requirements of this paragraph.

(b) *Start-up and shut-down.* (1) A boiler or industrial furnace may not burn hazardous waste during start-up. Hazardous waste may be burned after the device has reached steady-state (normal) operations as evidenced by maintaining a time-weighted average carbon monoxide (CO) level in the flue gas not to exceed 100 ppm for an averaging period of not less than 10 minutes nor more than 60 minutes.

(2) A boiler or industrial furnace may not burn hazardous waste during shut-down.

§ 266.35–4 Monitoring and inspections.

(a) The owner or operator must conduct, at a minimum, the following monitoring while burning hazardous waste:

(1) Except as provided by § 266.35–3(b)(2), carbon monoxide (CO) and oxygen must be monitored on a continuous basis at a common point in the boiler or industrial furnace downstream of the combustion zone and prior to release of stack gases to the atmosphere. CO and oxygen monitors must be installed, operated, and maintained in accordance with: *Guideline for Continuous Monitoring of Carbon Monoxide at Hazardous Waste Incinerators. Appendix D. PES,* January 1987.

(2) Other existing instruments that relate to combustion and emission control must be monitored at least every 15 minutes. Appropriate corrections to maintain steady state combustion conditions and normal emission control operations must be made immediately either automatically or by the operator. Instruments that relate to combustion and emission control would normally include those measuring hazardous waste feed rates, feed rate of other fuels, feed rate of industrial furnace feedstocks, hazardous waste firing system pressure, scrubber flow and scrubber water pH, electrostatic precipitator spark rate, and fabric filter pressure drop.

(b) The boiler or industrial furnace and associated equipment (pumps, valves, pipes, etc.) must be subjected to thorough visual inspection, at least daily when hazardous waste is burned, for leaks, spills, fugitive emissions, and signs of tampering.

(c) The emergency hazardous waste feed cutoff system and associated alarms must be tested at least weekly when hazardous waste is burned to verify operability, unless the owner or operator has written documentation that weekly inspections will unduly restrict or upset operations and that less frequent inspections will be adequate. At a minimum, operational testing must be conducted at least monthly.

§ 266.35–5 Closure.

At closure, the owner or operator must remove all hazardous waste and hazardous waste residues (including, but not limited to, ash, scrubber water, and scrubber sludges) from the boiler or industrial furnace site.

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

VI. In Part 270:

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

Authority: Secs. 1006, 2002, 3005, 3007, and 7004 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended by the Hazardous and Solid Waste Amendments of 1984 (42 U.S.C. 6905, 6912, 6925, 6927, and 6974).

2. It is proposed to amend paragraph (a) of § 270.6 by adding the following:

§ 270.6 References

(a) * * *

"Guideline on Air Quality Models (Revised)", July 1986, EPA Publication Number 450/2–78–027R (OAQPS Guideline No. 1.2–080), available from National Technical Information Service, Springfield, Virginia, Order No. PB 86–245286.

"Guidelines for Permit Writers: Permitting Hazardous Waste Combustion Facilities Using Risk Assessment".

3. It is proposed to add § 270.22 to Subpart B to read as follows:

§ 270.22 Specific Part B information requirements for boilers and industrial furnaces burning hazardous waste.

(a) Except as provided otherwise by § 266.30(d) (exemption of certain hazardous waste) and § 266.34–1(b) (exemption of small quantity on-site burners) of this chapter, owners and operators of boilers and industrial furnaces that burn hazardous waste must conduct a trial burn in accordance with § 270.65 to demonstrate conformance with the standards in § 266.34–4 of this chapter, unless a trial burn is not required under provisions of that section and the owner or operator demonstrates compliance with those provisions as provided by paragraph (c) of this section.

(b) Owners and operators not seeking to be permitted under provisions that do not require a trial burn must submit a trial burn plan or the results of a trial burn, including all required determinations, in accordance with § 270.65.

(c) Owners and operators seeking to be permitted under provisions of § 266.34–4 of this chapter that do not require a trial burn must submit documentation as follows:

(1) *Boilers operated under special operating requirements for conformance with the organic emissions standard.* When seeking to be permitted under § 266.34–4(a)(4) of this chapter, the owner or operator of a boiler must submit documentation that the boiler operates under the special operating requirements provided by that paragraph;

(2) *Boilers and industrial furnaces burning low risk waste.* When seeking to be permitted under the provisions for low risk waste provided by § 266.34–4(a)(3) of this chapter so that neither the trial burn nor carbon monoxide (CO) monitoring are required, the owner or operator of a boiler or industrial furnace must submit:

(i) Documentation that the device is operated in conformance with the requirements of § 266.34–4(a)(3)(i) of this chapter.

(ii) Results of analyses documenting the concentration of organic compounds listed in Appendix VIII of Part 261 of this chapter that could reasonably be expected to be constituents of each hazardous waste to be burned.

(iii) Documentation of hazardous waste firing rates and calculations of reasonable, worst-case emission rates of each constituent identified in paragraph (c)(3)(ii) of this section assuming the device achieves a 99% destruction efficiency for each constituent as provided by § 266.34–4(a)(3)(ii)(B) of this chapter.

(iv) Calculations of reasonable, worst-case emission rates of products of incomplete combustion (PICs) for each constituent identified in paragraph (c)(3)(ii) of this section using procedures established in "Guidelines for Permit Writers: Permitting Hazardous Waste Combustion Facilities Using Risk Assessment" (incorporated by reference, see § 270.6). This document is herein termed the Risk Assessment Guideline or RAG.

(v) Results of emissions modeling for emissions identified in paragraphs (c)(2)(iii) and (iv) of this section using modeling Procedures provided by "Guideline on Air Quality Models (Revised)" (incorporated by reference, see § 270.6). This document is herein termed the GAQM. The Director will review the emission modeling conducted by the applicant to determine conformance with the GAQM. The Director will either approve the modeling or determine that alternate or supplementary modeling is appropriate.

(vi) For each noncarcinogenic constituent identified in paragraph (c)(2)(ii) of this section, provide documentation that emissions will not result in exceedances of the reference air concentrations (RACs) identified in the RAG.

(vii) For each carcinogenic constituent identified in paragraph (c)(2)(ii) of this section and for products of incomplete combustion (PICs) quantified in conformance with paragraph (c)(2)(iii) of this section, results of the computation required by § 266.34–4(a)(3)(ii)(E) of this chapter.

(3) *Boilers and industrial furnaces meeting the Tier I or Tier II metals controls.* When seeking to be permitted under the provisions of § 266.34–4(b)(1) (Tier I) or § 266.34–4(b)(2) (Tier II) that control metals emissions without requiring a trial burn, the owner or operator of a boiler or industrial furnace must submit:

(i) For conformance with the Tier I metal specification provided by § 266.34–4(b)(1) of this chapter:

(A) Documentation of the hazardous waste feed rate;

(B) Documentation of metals levels in the hazardous waste;

(C) Documentation of the heat input capacity (MM Btu/hr) of the device: and

(D) Proposed hazardous waste sampling and metals analysis plan.

(ii) For conformance with the Tier II metals feed rate standard provided by § 266.34–4(b)(2) of this chapter:

(A) Documentation of the hazardous waste feed rate;

(B) Documentation of the type and feed rate of other fuels and industrial furnace feedstocks with which the hazardous waste is burned;

(C) Documentation of the levels of metals in the hazardous waste, other fuels, and industrial furnace feedstocks;

(D) Documentation of the heat input capacity (MM Btu/hr) of the device; and

(E) Proposed sampling and metals analysis plan for the hazardous waste, other fuels, and industrial furnace feedstocks.

(4) *Boilers and industrial furnaces meeting the Tier I or Tier II HCl control.* When seeking to be permitted under the provision of § 266.34–4(c)(1) (Tier I) or § 266.34–4(c)(2) (Tier II) that control hydrogen chloride (HCl) emissions without requiring a trial burn, the owner or operator of a boiler or industrial furnace must submit:

(i) For conformance with the Tier I chlorine specification provided by § 266.34–4(c)(1) of this chapter:

(A) Documentation of the hazardous waste feed rate;

(B) Documentation of the chlorine level in the hazardous waste;

(C) Documentation of the heat input capacity (MM Btu/hr) of the device; and

(D) Proposed hazardous waste sampling and chlorine analysis plan.

(ii) For conformance with the Tier II chlorine feed rate standard provided by § 266.34–4(c)(2) of this chapter:

(A) Documentation of the hazardous waste feed rate;

(B) Documentation of the type and feed rate of other fuels and industrial furnace feedstocks with which the hazardous waste is burned;

(C) Documentation of the levels of chlorine in the hazardous waste, other fuels, and industrial furnace feedstocks;

(D) Documentation of the heat input capacity (MM Btu/hr) of the device; and

(E) Proposed sampling and chlorine analysis plan for the hazardous waste, other fuels, and industrial furnace feedstocks.

(5) *Data in lieu of a trial burn.* The owner or operator of a boiler or industrial furnace may seek an exemption from the trial burn by providing information from trial or operational burns of similar boilers or industrial furnaces burning similar hazardous wastes under similar conditions. The Director shall approve a permit application without a trial burn if he finds that the hazardous wastes are sufficiently similar, the devices are sufficiently similar, and the data from other trial burns are adequate to specify (under § 266.34–6 of this chapter) operating conditions that will ensure conformance with the standards in § 266.34–4 of this chapter. In seeking this exemption, the applicant must submit the following information:

(i) An analysis of each hazardous waste to be burned including:

(A) Heating value, levels of arsenic, cadmium, chromium, lead, and chlorine and the composition of the hazardous waste, as fired (after blending);

(B) Viscosity and maximum particle size (if applicable), or a description of the physical form of the hazardous waste;

(C) An identification of any hazardous organic and inorganic constituents listed in Part 261, Appendix VIII, of this chapter, which are present in the hazardous waste, except that the applicant need not analyze for constituents listed in Appendix VIII which would reasonably not be expected to be found in the hazardous waste. The constituents excluded from analysis must be identified and the basis for their exclusion explained. The analysis must rely on analytical techniques specified in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (incorporated by reference, see § 270.6 and referenced in 40 CFR Part 261, Appendix III, or their equivalent);

(D) An appropriate quantification of the hazardous constituents identified in the hazardous waste, within the precision produced by the analytical methods specified in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (incorporated by reference, see § 270.6); and

(E) A quantification of those hazardous constituents in the hazardous waste that may be designated as POHCs based on data submitted from other trial or operational burns which demonstrate compliance with the performance standards in § 266.34 4 of this chapter;

(ii) A detailed engineering description of the boiler or industrial furnace, including:

(A) Manufacturer's name and model number of boiler or industrial furnace;

(B) Type of boiler or industrial furnace;

(C) Description of feed system for hazardous waste, other fuel, and industrial furnace feedstocks;

(D) Capacity of hazardous waste feed system;

(E) Description of automatic hazardous waste feed cutoff system(s);

(F) Description of any emission control system(s); and

(G) Description of stack gas monitoring and any pollution control monitoring systems;

(iii) A description and analysis of the hazardous waste to be burned compared with the hazardous waste for which data from operational or trial burns are provided to support the contention that a trial burn is not needed. The data should include those items listed in paragraph (c)(5)(i) of this section. This analysis should specify the POHCs that the applicant has identified in the hazardous waste for which a permit is sought, and any differences from the POHCs in the hazardous waste for which burn data are provided;

(iv) The design and operating conditions of the boiler or industrial furnace to be used, compared with that for which comparative burn data are available, including:

(A) Feed rate of the hazardous waste;

(B) The type, feed rate, and heating value of other fuels fired when hazardous waste is burned, and, if the levels of arsenic, cadmium, chromium, lead, or chlorine in the hazardous waste exceed the specification levels provided by §§ 266.34–6(c)(3) and 266.39–6(d)(3) of this chapter, the levels of those constituents in the other fuels; and

(C) The type and feed rate of industrial furnace feedstocks, and, if the levels of arsenic, cadmium, chromium, lead, or chlorine in the hazardous waste exceed the specification levels provided by §§ 266.34–6(c)(3) and 266.34–6(d)(3) of this chapter, the levels of those constituents in the feedstocks;

(v) A description of the results submitted from any previously conducted trial burn(s) including:

(A) Sampling and analysis techniques used to calculate conformance with performance standards in § 266.34–4 of this chapter; and

(B) Methods and results of monitoring feed rates of hazardous waste and, as appropriate, other fuels and industrial furnace feedstocks;

(vi) The expected boiler or industrial furnace operation information to demonstrate compliance with §§ 266.34–4 and 266.34–6 of this chapter, including:

(A) Hazardous waste feed rate, and, as appropriate, feed rate of other fuels and industrial furnace feedstocks;

(B) Expected removal efficiency for arsenic, cadmium, chromium, lead, and hydrogen chloride;

(C) Expected fugitive emissions and their control procedures; and

(D) Proposed allowable hazardous waste feed variations including feed rate, composition, metals, and chlorine levels;

(vi) Such supplemental information as the Director finds necessary to achieve the purposes of this paragraph.

(vii) Hazardous waste analysis data, including that submitted in paragraph (c)(5)(i) of this section, sufficient to allow the Director to specify in the permit the Principle Organic Hazardous Constituents (permit POHCs) for which destruction and removal efficiencies will be required.

(d) Owners and operators seeking to be permitted under Tiers I, II, or III for metals and chlorine under the provisions of § 266.34–4(b)(1)–(3) and § 266.34–4(c)(1)–(3) of this chapter must submit the documentation needed to determine whether the permitted device is sited in complex or flat terrain as defined in the aforementioned provisions. The applicant must give the methodology for the determination including such information as the stack height and topographical data including maps used in making the determination.

(e) Owners and operators seeking to be permitted under the Tier IV metals provision of § 266.34–4(b)(4) of this chapter must submit a dispersion modeling plan with Part B of the permit application. The Director will review the plan for conformance with the "Guideline for Air Quality Monitoring" (incorporated by reference, see § 270.6). The Director will either approve the modeling plan or determine that an alternate or supplementary plan is appropriate. After completion of the trial burn to measure metals emission rates, the owner or operator must conduct dispersion modeling according to the approved plan and submit the results to the Director. The Director will determine whether the results are in conformance with the requirements of § 266.34–4(b)(4) of this chapter and will establish appropriate operating requirements as required by § 266.34–4(c)(3) of this chapter.

(f) Owners and operators seeking to be permitted under the Tier IV hydrogen chloride (HCl) provisions of § 266.34–

4(c)(4) of this chapter must submit a dispersion modeling plan with Part B of the permit application. The Director will review the plan for conformance with the "Guideline for Air Quality Monitoring (Revised)" (incorporated by reference, see § 270.6). The Director will either approve the modeling plan or determine that an alternative or supplementary plan is appropriate. After completion of the trial burn to measure HCl emission rates, the owner or operator must conduct dispersion modeling according to the approved plan and submit the results to the Director. The Director will determine whether the results are in conformance with the requirements of § 266.34–4(c)(4) of this chapter and will establish appropriate operating requirements as required by § 266.34–6(d)(3) of this chapter.

Subpart F—Special Forms of Permits

4. It is proposed to add § 270.66 to Subpart F to read as follows:

§ 270.66 Permits for boilers and industrial furnaces burning hazardous waste.

(a) *General.* New boilers (those boilers not operating under the interim status standards of § 266.35 of this chapter) are subject to paragraph (b) of this section if they will be permitted without a trial burn under § 266.34.5–(d)(1) of this chapter. New boilers and industrial furnaces that will be permitted based on a trial burn under § 266.34–5(d)(3) of this chapter are subject to paragraph (c) of this section. Boilers and industrial furnaces operating under the interim status standards of § 266.35 of this chapter are subject to paragraph (d) of this section.

Note.—New boilers and industrial furnaces permitted without a trial burn under the provision for low risk waste provided by § 266.34–4(a)(3) of this chapter are not subject to the special permits of this section if a trial burn is not required to demonstrate compliance with the Tier III or Tier IV metals or HCl controls. Such facilities are awarded an operating permit after the Director establishes that the facility is in conformance with § 266.34–4(a)(3) of this chapter and the Tier I or Tier II metals and HCl controls.

(b) *New boilers permitted without a trial burn.* New boilers that will be permitted without a trial burn under § 266.34–5(d)(1) of this chapter are subject to the operating requirements in §§ 266.34–6(b)(4) (to control organic emissions), 266.34–6(c) (2) or (3) (to control metals emissions), and 266.34–6(d) (2) or (3) (to control HCl emissions) of this chapter. These requirements are termed "Special Operating Requirements." New boilers that operate under the Special Operating Requirements are subject to the following permits:

(1) *Predemonstration period.* The predemonstration period begins with initial introduction of hazardous waste to the boiler and extends for the minimum time required, not to exceed a duration of 720 hours operating time when burning hazardous waste, to bring the boiler to a point of operation readiness to conduct a demonstration that the boiler can operate under the Standing Operating Requirements. During this period, the boiler must be operated in conformance with the Standard Operating Requirements. The Regional Administrator may extend the duration of this period once for up to 720 additional hours when good cause for the extension is demonstrated by the applicant. The permit may be modified to reflect the extension according to § 270.42 (minor modifications of permits).

(i) Applicants must submit a statement with Part B of the permit application demonstrating how they will comply with the Standard Operating Requirements. If the hazardous waste is off-specification for metals or chlorine, the statement should include limitations, as appropriate, on the metals and chlorine content, heating value, and feed rates of the hazardous waste, other fuel, and industrial furnace feedstocks to demonstrate conformance with §§ 266.34–6(c)(2) and 266.34–6(d)(2) of this chapter.

(ii) The Director will review this statement and any other relevant information submitted with Part B of the permit application and determine whether the applicant is likely to be able to comply with the Standard Operating Requirements.

(2) *Demonstration period.* For the period immediately after completion of the first period of operation and only for the minimum period sufficient to allow sample analysis, data computation, and submission of the results by the applicant demonstrating conformance with the Standard Operating Requirements, the boiler is subject to the Standard Operating Requirements. During this period, the applicant is operating under a Demonstration Permit. The Demonstration Permit is an extension of the Predemonstration Permit and constitutes a minor modification of permits under § 270.42.

(3) *Post-demonstration period.* After successful completion of the demonstration period, the boiler operates under a Final Permit in conformance with the Standard Operating Requirements. If the hazardous waste is off-specification for metals or chlorine, the Director will specify changes to limitations, as appropriate, on the metals and chlorine content, heating value, and feed rates of the hazardous waste, other fuels, and industrial furnace feedstocks and requirements for the operation and maintenance of emissions control equipment necessary to ensure compliance with §§ 266.34–6(c)(2) or 266.34–6(d)(2) of this chapter. The Final Permit is an extension of, and modification to, as necessary, the Demonstration Permit and constitutes a minor modification of permits under § 270.42.

(c) *New boilers and industrial furnaces permitted with a trial burn.* New boilers and industrial furnaces that will be permitted with a trial burn under § 266.34–5(d)(2) of this chapter are subject to the following permits:

(1) *Pretrial burn period.* For the period beginning with initial introduction of hazardous waste and ending with initiation of the trial burn, and only for the minimum time required to bring the boiler or industrial furnace to a point of operation readiness to conduct a trial burn, not to exceed 720 hours operating time when burning hazardous waste, the Director must establish in a Pretrial Burn Permit conditions, including but not limited to, allowable hazardous waste feed rates and operating conditions. The Director may extend the duration of this operational period once, for up to 720 additional hours, at the request of the applicant when good cause is shown. The permit may be modified to reflect the extension according to § 270.42 (minor modifications of permits).

(i) Applicants must submit a statement, with Part B of the permit application, that suggests the conditions necessary to operate in compliance with the standards of § 266.34–4 of this chapter during this period. This statement should include, at a minimum, restrictions on hazardous waste constituents including arsenic, cadmium, chromium, lead, and chlorine, hazardous waste heating value and feed rates, and the operating parameters identified in § 266.34–6 of this chapter.

(ii) The Director will review this statement and any other relevant information submitted with Part B of the permit application and specify requirements for this period sufficient to meet the performance standards of § 266.34–4 of this chapter based on his engineering judgment.

(2) *Trial burn period.* For the duration of the trial burn, the Director must establish conditions in the permit for the purposes of determining feasibility of compliance with the performance

standards of § 266.34–4 of this chapter and of determining adequate operating conditions under § 266.34–6 of this chapter.

(i) Applicants must propose a trial burn plan, prepared under paragraph (c)(2)(ii) of this section, to be submitted with Part B of the permit application.

(ii) The trial burn plan must include the following information:

(A) An analysis of each hazardous waste, as fired, that includes:

(*1*) Heating value, levels of arsenic, cadmium, chromium, lead, and chlorine, and composition of the hazardous waste;

(*2*) Viscosity and maximum particle size (if applicable), or description of the physical form of the hazardous waste;

(*3*) An identification of any hazardous organic constituents listed in Part 261, Appendix VIII of this chapter that are present in the hazardous waste, except that the applicant need not analyze for constituents listed in Appendix VIII that would reasonably not be expected to be found in the hazardous waste. The constituents excluded from analysis must be identified and the basis for their exclusion explained. The analysis must rely on analytical techniques specified in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (incorporated by reference, see § 270.6), or their equivalent.

(*4*) An approximate quantification of the hazardous constituents identified in the hazardous waste, within the precision produced by the analytical methods specified in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (incorporated by reference, see § 270.6), or other equivalent.

(*5*) A description of blending procedures, if applicable, prior to firing the hazardous waste, including a detailed analysis of the hazardous waste prior to blending, an analysis of arsenic, cadmium, chromium, lead, and chlorine levels in the fuel with which the hazardous waste is blended, and blending ratios.

(B) A detailed engineering description of the boiler or industrial furnace, including:

(*1*) Manufacturer's name and model number of the boiler or industrial furnace;

(*2*) Type of boiler or industrial furnace;

(*3*) Maximum rated heat input;

(*4*) Description of the feed system for the hazardous waste, and, as appropriate, other fuels and industrial furnace feedstocks;

(*5*) Capacity of hazardous waste feed system:

(*6*) Description of automatic hazardous waste feed cutoff system(s):

(*7*) Description of any emission control system(s); and

(*8*) Description of stack gas monitoring and any pollution control monitoring systems.

(C) A detailed description of sampling and monitoring procedures including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis.

(D) A detailed test schedule for each hazardous waste for which the trial burn is planned, including date(s), duration, quantity of hazardous waste to be burned, and other factors relevant to the Director's decision under paragraph (c)(2)(v) of this section.

(E) A detailed test protocol, including, for each hazardous waste identified, the ranges of hazardous waste feed rate, and, as appropriate, the feed rates of other fuels and industrial furnace feedstocks, and any other relevant parameters that will be varied and that may affect the ability of the boiler or industrial furnace to meet the performance standards in § 266.34–4 of this chapter.

(F) A description of, and planned operating conditions for, any emission control equipment that will be used.

(G) Procedures for rapidly stopping the hazardous waste feed and controlling emissions in the event of an equipment malfunction.

(H) Such other information as the Director reasonably finds necessary to determine whether to approve the trial burn plan in light of the purposes of this paragraph and the criteria in paragraph (c)(2)(v) of this section.

(iii) The Director, in reviewing the trial burn plan, shall evaluate the sufficiency of the information provided and may require the applicant to supplement this information, if necessary, to achieve the purposes of this paragraph.

(iv) Based on the hazardous waste analysis data in the trial burn plan, the Director will specify as trial Principal Organic Hazardous Constituents (POHCs), those constituents for which destruction and removal efficiencies must be calculated during the trial burn. These trial POHCs will be specified by the Director based on his estimate of the difficulty of destroying the constituents identified in the hazardous waste analysis, their concentration or mass in the hazardous waste feed, and, for hazardous waste containing or derived from wastes listed in Part 261, Subpart D of this chapter, the hazardous waste organic constituent(s) identified in Appendix VII of that part as the basis for listing.

(v) The Director shall approve a trial burn plan if he finds that:

(A) The trial burn is likely to determine whether the boiler or industrial furnace can meet the performance standards in § 266.34–4 of this chapter;

(B) The trial burn itself will not present an imminent hazard to human health and the environment:

(C) The trial burn will help the Director to determine operating requirements to be specified under § 266.34–6 of this chapter; and

(D) The information sought in paragraphs (c)(2)(v) (A) and (C) of this section cannot reasonably be developed though other means.

(vi) The Director shall extend and modify the Pretrial Burn Permit as necessary to accommodate the approved trial burn plan. The permit modification shall proceed as a minor modification according to § 270.42.

(vii) During each approved trial burn (or as soon after the burn as is practicable), the applicant must make the following determinations:

(A) A quantitative analysis of the trial POHCs and of arsenic, cadmium, chromium, lead, and chlorine, in the hazardous waste feed to the boiler or incinerator:

(B) A quantitative analysis of the exhaust gas for the concentration and mass emissions of the trial POHCs:

(C) If the hazardous waste is off-specification for arsenic, cadmium, chromium, lead, or chlorine, for each element for which the hazardous waste is off-specification:

(*1*) A quantitative analysis of levels of the element(s) in other fuels and industrial furnace feedstocks, the heating value of the hazardous waste and other fuels, and the feed rates of the hazardous waste, other fuels, and industrial furnace feedstocks to demonstrate conformance with the computed allowable concentrations of metals and chlorine provided in §§ 266.34–6 (c)(2) and (d)(2) of this chapter; or

(*2*) A quantitative analysis of the exhaust gas for the concentration and mass emission of the metal(s) or hydrogen chloride (HCl), and a computation showing conformance with the metals or HCl emission performance standard in § 266.34–4 (c) and (d) of this chapter;

(E) A quantitative analysis of the scrubber water (if any), ash residues, and other residues, for the purpose of estimating the fate of the trial POHCs, the fate of any metal subject to

emissions testing under paragraph (c)(vi)(C)(*2*) of this section, and the fate of chlorine if subject to emission testing under paragraph (c)(vi)(D)(*2*) of this section;

(F) A computation of destruction and removal efficiency (DRE), in accordance with the DRE formula specified in § 266.34–4(a)(1) of this chapter;

(G) An identification of sources of fugitive emissions and their means of control;

(H) A continuous measurement of carbon monoxide (CO) and oxygen in the exhaust gas; and

(I) Such other information as the Director may specify as necessary to ensure that the trial burn will determine compliance with the performance standards in § 266.34–4 of this chapter and to establish the operating conditions required by § 266.34–6 of this chapter as necessary to meet those performance standards.

(viii) The applicant must submit to the Director a certification that the trial burn has been carried out in accordance with the approved trial burn plan, and must submit the results of all the determinations required in paragraph (c)(2)(vi) of this section. This submission shall be made within 90 days of completion of the trial burn, or later if approved by the Director.

(ix) All data collected during any trial burn must be submitted to the Director following completion of the trial burn.

(x) All submissions required by this paragraph must be certified on behalf of the applicant by the signature of a person authorized to sign a permit application or a report under § 270.11.

(xi) Based on the results of the trial burn, the Director shall set the operating requirements in the Final Permit according to § 266.34–6 of this chapter. The permit modification shall proceed as a minor modification according to § 270.42.

(3) *Post-trial burn period.* For the period immediately following completion of the trial burn, and only for the minimum period sufficient to allow sample analysis, data computation, and submission of the trial burn results by the applicant, and review of the trial burn results and modification of the facility permit by the Director to reflect the trial burn results, the Director will establish the operating requirements most likely to ensure compliance with the performance standards of § 266.34–4 of this chapter based on his engineering judgment. The Director shall so extend and modify the Trial Burn Permit to develop the Post-Trial Burn Permit. The permit modification shall proceed as a minor modification according to § 270.42.

(i) Applicants must submit a statement, with Part B of the permit application, that identifies the conditions necessary to operate in compliance with the performance standards of § 266.34–4 of this chapter, during this period. This statement should include, at a minimum, restrictions on hazardous waste constituents, including arsenic, cadmium, chromium, lead, and chlorine, hazardous waste feed rates, and the operating parameters identified in § 266.34–6 of this chapter.

(ii) The Director will review this statement and any other relevant information submitted with Part B of the permit application and specify requirements for this period sufficient to meet the performance standards of § 266.34–4 of this chapter based on his engineering judgment.

(4) *Final permit.* After review of the trial burn results, the Director will modify the permit as necessary to develop the Final Permit that will ensure compliance with the performance standards of § 266.34–4 of this chapter. The permit modification shall proceed as a minor modification according to § 270.42.

(d) *Interim status boilers and industrial furnaces*—(1) *Existing boilers to be permitted without a trial burn.* Applicants owning or operating existing boilers operated under the interim status standards of § 266.35 of this chapter and that will be permitted without conducting a trial burn because they operate under the Standard Operating Requirements in §§ 266.34–6(b)(4), 266.34–6(c) (2) or (3), and 266.34–6(d) (2) or (3) of this chapter must submit with Part B of the permit application documentation that the boiler is operated in accordance with the Standard Operating Requirements. The statement must include, at a minimum, the operating record documenting continuous measurement of carbon monoxide (CO) and oxygen in the exhaust gas. If the hazardous waste is off-specification for metals or chlorine, the statement must also include limitations, as appropriate, on the metals and chlorine content, heating value, and feed rates of the hazardous waste, other fuel, and industrial furnace feedstocks to demonstrate conformance with §§ 266.34–6(c)(2) and 266.34–6(d)(2) of this chapter.

(2) *Existing industrial furnaces and boilers that will be permitted with a trial burn.* Applicants owning or operating existing boilers or industrial furnaces operated under the interim status standards of § 266.35 of this chapter and that will be permitted with a trial burn for the purposes of determining compliance with the performance standards of § 266.34–4 of this chapter and of determining adequate operating conditions under § 266.34–6 of this chapter, must prepare and submit a trial burn plan and perform a trial burn in accordance with paragraphs (c)(2)(ii) through (c)(2)(ix) of this section. Applicants who submit a trial burn plan and receive approval before submission of the Part B permit application must complete the trial burn and submit the results specified in paragraph (c)(2)(vi) of this section with the Part B 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. If the applicant submits a trial burn plan with Part B of the permit application, the trial burn must be conducted and the results submitted within a time period to be specified by the Director.

PART 271—REQUIREMENTS FOR AUTHORIZATION OF STATE HAZARDOUS WASTE PROGRAMS

VII. In Part 271:

1. The authority citation for Part 271 continues to read as follows:

Authority: Secs. 1006, 2002(a), and 3006 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 6905, 6912(a), and 692.6).

§ 271.1 [Amended]

2. It is proposed to amend § 271.1(j) by adding the following entry to Table 1 in chronological order by date of publication:

TABLE 1.—REGULATIONS IMPLEMENTING THE HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984

Date of publication in the FEDERAL REGISTER	Title of regulation
• •	• • •
[Insert promulgation date].	Standards for Owners and Operators of Boilers and Industrial Furnaces.
• •	• • •

[FR Doc. 87–9769 Filed 5–5–87; 8:45 am]
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federal register

Wednesday
May 6, 1987

Part III

Department of Energy

Office of Conservation and Renewable Energy

10 CFR Part 435

Energy Conservation Voluntary Performance Standards for New Commercial and Multi-Family High Rise Residential Buildings; Notice of Proposed Interim Rule and Public Hearings and Finding of No Significant Impact

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

AGENCY: Office of Conservation and Renewable Energy, DOE.

ACTION: Notice of proposed interim rule and public hearings.

SUMMARY: Today, the U.S. Department of Energy (DOE) is proposing interim energy conservation voluntary performance standards for new commercial and multi-family high rise residential buildings. Federal agencies would be required to design Federal commercial and multi-family high rise residential buildings to satisfy the energy efficiency requirements of these proposed interim standards. These proposed interim standards would not regulate the design of non-Federal buildings, although DOE would recommend the use of the proposed standards to the design professions as guidelines for the design of energy conserving buildings.

DOE has previously published a Notice of Proposed Rulemaking, 44 FR 68120 *et seq.* (November 28, 1979) which is no longer responsive to the program authorities as subsequently amended by Congress. The research leading to today's proposal has been previously issued for public comment by a Notice of Inquiry, 49 FR 3245 *et seq.* (January 26, 1984).

DATES: Written comments on the proposed interim rule must be received by the Department by August 4, 1987.

Public hearings will be held in New Orleans, Louisiana on June 16, 1987; San Francisco, California on June 18, 1987 and Washington, DC on June 11, 1987.

Requests to speak at the public hearings must be received by June 12, 1987 for the New Orleans and San Francisco hearings; June 10, 1987 for the Washington, DC hearing.

ADDRESSES: All written comments (7 copies), requests to speak at the public hearings, and requests for the supporting documentation are to be submitted to:

Office of Conservation and Renewable Energy, Hearings and Dockets, U. S. Department of Energy, Docket Number CAS-RM-79-112-C, 1000 Independence Avenue, SW., Room 6B-025, Washington, DC 20585, (202) 586-9320.

All of the public hearings will begin at 9:30 a.m., and will be held at the following locations:

New Orleans, Louisiana
F. Edward Hebert Federal Building, 600 S. Maestri (at Camp Street), Room 921 (9th Floor), New Orleans, Louisiana 70130.

San Francisco, California
Federal Office Building, 450 Golden Gate Avenue (between Polk & Larkin Streets), Room 13029 (13th Floor), San Francisco, California 94102.

Washington, DC
U.S. Department of Energy, 1000 Independence Avenue, SW., Room 1E-245 (1st Floor-E Corridor), Washington, DC 20585.

Copies of the transcripts of the public hearings, individual oral statements, and the written public comments received may be viewed and/or obtained from the DOE Freedom of Information Reading Room, Room 1E-190, 1000 Independence Avenue SW., Washington, DC 20585, (202) 586-6020, 9:00 a.m.-4:00 p.m.

FOR FURTHER INFORMATION CONTACT:

Jean J. Boulin, Architectural and Engineering Systems, CE-131, U.S. Department of Energy, Room GF-231, 1000 Independence Avenue, SW., Washington, DC 20585, (202) 586-9446

Paul C. Cahill, Esq., Office of General Counsel, GC-12, U.S. Department of Energy, Room 6B-144, 1000 Independence Avenue, SW., Washington, DC 20585, (202) 586-9507.

SUPPLEMENTARY INFORMATION: Today, the Department of Energy (DOE) is proposing 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. 6831 *et seq.* The proposal would require Federal agencies to design new Federal commercial and multi-family high rise residential buildings in accordance with the energy efficiency requirements prescribed by the proposed interim voluntary energy performance standards. This proposal would not regulate non-Federal construction, however DOE would recommend the use of the proposed 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.

The proposal represents 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, today's proposal is 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 proposed interim standards that can be better understood and more readily used in the private sector. Also, for the same reason the proposal contains extensive explanatory material not normally included in Federal standards.

I. Background

A. Legislative History

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. Sec. 6831, (August 14, 1976), 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. HUD retained its 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. Many who commented expressed concern that the proposed standards were not technically practicable nor economically achievable. Furthermore, many who commented stated that the proposed standards placed too great a reliance upon the use of a complex computer program which they said they neither understood nor could afford to use. Section I–C discusses these comments in more detail.

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. Additionally, 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.

B. The 1979 BEPS Proposal

In November 1979, DOE proposed energy performance standards for new buildings (BEPS), 44 FR 68120 (November 28, 1979), that specified maximum levels, expressed in Btu/ft²/yr., of total building energy consumption to which new buildings would be designed. The most significant aspect of the BEPS was that it was a whole building performance standard that required computer simulations to demonstrate that the designed energy consumption of a new building did not exceed the energy level specified for that building type in its applicable climate area. The BEPS defined 21 different building types and contained energy budgets for all types, as well as a procedure to select an appropriate climate zone from 78 different Standard Metropolitan Statistical Areas.

At the time the proposed BEPS was published, over forty States had already adopted standards developed by the American Society of Heating, Refrigerating, and Air Conditioning Engineers, Inc. (ASHRAE) as their mandatory energy conservation standards for new building design, and many local governments had incorporated it by reference into their building codes. ASHRAE Standard 90–1975, entitled, Energy Conservation in New Buildings Design, and the version revised in 1980 and known as ASHRAE Standard 90A–1980, are component performance standards that identify minimum performance criteria for the major components of a building, i.e., envelope, heating, ventilation, and air conditioning, and lighting systems.

The BEPS, therefore, represented a radical departure from the standard practices of the building community in that it required a "whole building" approach rather than a building component by component compliance process. Additionally, it required a computer simulation analysis in place of hand written compliance procedures. The ASHRAE Standards also contain a whole building performance design approach but it is a less frequently used alternative.

DOE received over 1,800 written responses during the official comment period from architects, engineers, builders, building trade organizations, State and local governments, financial institutions, conservation associations and private citizens. Many of the comments that deal primarily with those

issues that are pertinent to this proposal are responded to in Section I–C below.

C. Summary of Public Comment Received on 1979 Notice Proposed Rulemaking

This section is organized as follows: First, the general comments made in support of or in opposition to the 1979 proposal are described; second, comments by subject including a DOE response are identified; and third, the comments received from representatives of various Federal agencies are described. The latter have been separated from the general comments because the proposed interim standards will be mandatory for the design of Federal buildings.

1. General Comments

Only a minority of those who commented favored some form of mandatory, whole building energy performance standards; and most who commented, even those in favor of the mandatory performance approach, had some form of criticism of the proposed standards as written. Many who commented from several building industry groups, but especially from consumer groups, representatives of the American Institute of Architects (AIA), the Masonry Research Institute and manufacturers represented by the National Fenestration Council, supported the performance approach because it theoretically permits maximum design flexibility. Even so, only a few of those who commented advocated the performance path as the only acceptable approach. To many, BEPS was an acceptable idea only if the standards were made voluntary and only if adequate, equivalent component and prescriptive standards were permitted.

The majority of those who commented opposed the concept of whole building performance standards under any circumstances. Over 300 who commented suggested that DOE discard the BEPS in total and adopt standards based on internationally accepted standards, ASHRAE Standard 90–1975. Approximately a thousand others asserted that ASHRAE 90–1975 should be adopted as an acceptable substitute, thus providing the building industry with the option of using either the whole building or the more traditional prescriptive approach. An overwhelming majority of those who commented objected to the imposition of whole building performance standards based on an untested approach, especially in the absence of approved alternatives. The whole building performance approach as proposed by DOE was characterized as being technically complicated and not understood by the majority of those who would have to use it, namely designers, builders, and code officials; it would therefore prove both costly and ineffective. Additionally, many of those who commented suggested that DOE could satisfy the legislative requirement to develop performance standards as well as greatly simplify the standards program if it established thermal standards for the building envelope using traditional "R" and "U" values or if it permitted the performance path as specified in Section 10 of ASHRAE 90–1975. Many who commented specifically identified themselves as engineers and members of ASHRAE, but their views were shared by non-ASHRAE engineers as well as many architects, builders, product manufacturers, and State and local code enforcement officials.

DOE Response: Because of the changes to program authorities enacted by Congress and the overwhelming public opposition to the original format, DOE has revised the format of the proposed interim voluntary energy performance standards. The new proposed interim standards use a commercial standards format and afford a designer the choice of using a variety of design methods including the traditional prescriptive design method as well as a systems performance method.

2. Summary of Topical Comments

a. *Climate.* The BEPS was based on climate considerations of 78 climate zones derived from information on 10 cities. Each of the 78 climate zones was a Standard Metropolitan Statistical Area (SMSA). BEPS was supposed to express the range of climatic variations expected in the United States. About 175 comments discussed the issue of climate. Of these, 80% addressed DOE's selection of climate zones. Most who commented believed that the procedures for determining an applicable climate zone allowed for human error and misinterpretation and were unduly complicated for those not located within the 78 SMSAs.

Many who commented opposed the selection of climate zones from SMSAs because SMSAs are political and geographic boundaries used for collection of census data, not climate boundaries. There was also a general feeling that extrapolation of 78 climate zones from data simulated in only ten cities was inadequate and would produce unacceptable, erroneous results. Many State and local officials claimed that the climate determination approach caused the building budgets to be unrealistic for their climates. Other comments, about 25% of those commenting, suggested that DOE had not considered enough factors in its evaluation of climate data. Other important factors mentioned were humidity, wind chill, earth sheltering, trees, orientation, ventilation and micro-climate.

A few who commented objected to using heating and cooling degree days as a criterion. They argued that DOE's approach tended to penalize regions that had relatively short periods of large temperature differentials at the expense of those regions with the same degree days and longer periods of moderate temperature differentials.

DOE Response: Climate considerations in today's proposal do not depend upon some artificial designation or mapping of climate regions. Rather, design criteria were selected based upon basic building design parameters (such as percent glazing in the walls) coupled with easily understood and easily obtained site-specific climate measures, such as design temperatures. Different sites are no longer grouped together under some blanket criteria, rather a designer can select climate data for the specific geographical location of the building site.

Additional climate factors have also been considered and entered into the criteria selection, although not to the extent suggested by those who commented. The effects of insolation (heat from direct sunlight) are accounted for through a solar gain coefficient and daylighting factors. Orientation is handled directly within the proposed interim standards. For specialized micro-climate situations such as earth-sheltered structures, the approach proposed in Section 435.111 or 435.112 enables the full benefits of more innovative design solutions to be considered.

b. *Weighting Factors.* In the BEPS program, DOE developed an approach using weighted numbers to explicitly account for the cost of different fuels and the value to the nation of conserving different fuels. These multipliers for different fuel types (1.0 for natural gas, 1.20 for oil, and 3.08 for electricity) were referred to as "weighting factors" and they were intended to ensure that the building's design energy consumption would reflect the costs and true national value of non-renewable fuels. Designers were asked to first calculate the building's energy requirements and then multiply that figure by the appropriate weighting factor representing the fuel employed by

the building's heating and cooling system.

The proposed section providing weighting factors was probably the most controversial single element of the 1979 proposal and generated more comments than any other; approximately 600 responses were received.

The overwhelming majority (90%) of comments from all sectors was negative, with most recommending total elimination. Many who commented felt weighting factors would accelerate depletion of U.S. oil and natural gas reserves, thereby increasing the country's dependence on foreign imports, and their inclusion as a part of the standards were allegedly in violation of the Powerplant and Industrial Fuel Use Act of 1978, Pub. L. 95–620, as amended, 42 U.S.C. 8301 *et seq.* Most of these comments suggested the establishment of regionalized weighting factors. They argued that it is unrealistic to apply the same weighting factors in all regions of the country because of the wide range of electricity costs among fuels used for generation. Furthermore, not all fuels are available in all regions.

Many who commented felt that the standards should be site-based rather than source-based. Site-based considerations take into account only the energy which is delivered to the building. Source-based energy is accounted for in its original form. For example, electric power is generated from several sources (coal, nuclear, gas or oil) and is subject to the relative efficiency of the source and to conversion and transportation losses. Those commenting on this issue claimed that source efficiencies are irrelevant where a particular fuel is only useful for generating electricity, i.e. nuclear energy.

DOE Response: The concept of weighting factors as a part of the proposed interim standards has been eliminated. The envelope requirements of the proposed standards are based on reducing thermal loads within spaces; the equipment requirements are based on minimum controls and equipment efficiencies; and the lighting requirements are based on the control of the lighting power budget. Each of these measures can therefore be translated to the reduction of energy consumption on a site-measured basis; consequently, the problems associated with assigning weighting factors to various fuels have been eliminated.

c. *Use of Renewable Resources.* In the BEPS proposal, DOE sought to encourage the use of renewable resources in commercial buildings in two ways. First, the energy supplied by solar thermal and electric heating systems was not to be included in the energy consumption calculations of a building. Second, DOE encouraged the use of natural daylighting. Most of the comments on this subject shared an opinion that DOE had failed to encourage the use of renewable resources, an expressed objective of the Act, because the credit provided for energy savings for the use of passive and active solar heating systems was too limited, or because the methodology used in the analysis was flawed.

DOE Response: The Department has designed the proposed interim standards to encourage the use of renewable energy sources. The selection depends upon quantifying the effects of insolation on heating and cooling loads and also the effects of the displacement of artificial lighting by daylighting. The beneficial effects of thermal mass are directly accounted for in the proposed compliance procedures. The heating, ventilating, and air-conditioning (HVAC) sections require the use of economizers in order to take advantage of "free cooling" from outside air. The proposed lighting design criteria provide incentives for the use of daylighting and daylighting controls. In addition, the whole building alternative to compliance in the proposed interim standards (Section 435.111 or 435.112) contains special allowances and conditions for building designs whose energy is supplied by renewable energy sources.

d. *Health and Safety.* Under BEPS, a design was not credited for reducing infiltration and ventilation rates; rather, DOE recommended using the ventilation rates required by local health codes. There were 25 comments that addressed the reduction of infiltration levels in new commercial buildings; and the consensus was that more research was needed.

DOE Response: DOE agrees that more research is needed and finds that no definitive conclusions can be drawn today, six years later, from the most current research results available. The present issuance calls for the use of the ASHRAE 62–1981 ventilation standards, entitled "Natural and Mechanical Ventilation". These voluntary standards, adopted through ASHRAE's national consensus process, is considered to reflect current and standard practices of Federal agencies. In addition, DOE recognizes that these standards have been and continue to be adopted and incorporated by reference into the building codes of many State and local jurisdictions. For these reasons, and until further research on revisions to 62–1981 is completed, DOE is proposing incorporation of consensus ventilation standards that are already used and accepted in the building community.

e. *Life Cycle Cost Analyses.* The 40 comments received on this subject were evenly divided between those in favor of and those opposed to using life cycle costing to select the commercial building budgets. Those in favor felt that life cycle cost analysis would produce tighter buildings, would promote more innovative strategies, and would provide information that could be a good selling feature for buildings. Those opposed to the use of life cycle costing felt that it is too costly, time consuming, and inexact; that it relies on speculative fuel projections; and is not suited for a national rulemaking.

DOE Response: Today's proposal is recommended as a guideline to designers of new commercial and multi-family high rise residential buildings in the private sector. In this guideline, designers are not required to complete any life cycle calculations. However, Federal agencies continue to be required to use the life cycle cost methodology in Subpart A of 10 CFR Part 436, issued by DOE pursuant to Executive Order 12003 and section 545, 42 U.S.C. 8255 of the "National Energy Conservation and Policy Act" (NECPA) (Pub. L. 95–619). The proposed interim standards incorporate the life cycle cost requirement, by reference, in Proposed § 435.112 for Federal agencies only. It should be noted that the proposed interim standards have been analyzed for life cycle cost effectiveness and have been found to be cost effective.

3. Federal Agency Comments

a. *Federal Emergency Management Agency (FEMA).* The basic thrust of FEMA's comments was to support BEPS but with the admonition that DOE should not neglect to study the effect on fire safety and possible ambiguities or conflicts relating to existing fire safety codes. FEMA also suggested that DOE make recommendations to applicable fire safety codes and regulations where appropriate.

DOE Response: The proposed interim standards are intended to comply with existing fire safety codes, and DOE expects that use of the proposed interim standards will produce designs that satisfy the requirements of each of the major fire codes. DOE believes that the proposed interim standards will not produce new or radical design approaches which would compromise fire safety but rather the refinement of existing design approaches to reduce whole building energy consumption.

b. *Environmental Protection Agency (EPA).* Comments received from the EPA were generally supportive of BEPS but with some reservations. The EPA supported the performance approach and DOE's objective not to permit an increase in the levels of indoor air pollutants of buildings constructed to meet the BEPS standards. However, the EPA strongly recommended that when DOE develops other prescriptive equivalent standards, no credit for tight designs be given until an effective program for mitigating indoor air quality impacts has been developed.

DOE Response: The proposed interim standards employ ventilation criteria as defined by ASHRAE 62–1981, which DOE has concluded establishes the state-of-the-art criteria for the buildings industry. ASHRAE is presently updating its ventilation standards, and DOE will review the results to determine if modifications to the proposed interim standards would be appropriate. The proposed interim standards do not modify infiltration criteria, except for decreasing maximum permissible air leakage rates for windows to meet current industry norms for good windows. However, infiltration rates generally have little effect on indoor air quality in commercial buildings, which are generally pressurized by the air conditioning systems and which have mandatory ventilation rates far in excess of any incidental infiltration.

c. *Department of Housing and Urban Development (HUD).* Comments from HUD centered on the BEPS building classification system. They suggested that the building classifications were ambiguous; for instance, HUD stated that it was not clear whether churches, art galleries, fire and police stations should all be placed under the community center category or whether these types of buildings should be exempted from having to comply with BEPS.

DOE Response: The design criteria in the proposed interim standards no longer depend upon the classification of any building by building category or user type such as assembly building, school, etc. The proposed design criteria are selected according to physical characteristics such as a percent glazing in the walls or building size, climate and orientation.

d. *Department of the Interior (DOI).* While basically supporting the need for energy performance standards, DOI's Office of Heritage Conservation and Recreation commented that the documentation did not appear to address whether the energy conservation goals can be more efficiently achieved through the modification of existing ASHRAE standards. They also noted that the building classification system failed to define how buildings such as museums and archives with high volume-to-floor space ratios would be treated.

DOE Response: The concerns of DOI, with respect to building types, are similar to those received from HUD. DOE's response to HUD, indicating that the design criteria would be based on the building's physical characteristics, is applicable here.

The second DOI comment relative to the use of ASHRAE standards has, of course, been addressed in the proposed interim standards.

e. *National Bureau of Standards (NBS).* The NBS provided the most comprehensive comments of all the Federal agency comments received. They were generally agreeable with the performance standards concept as proposed in 1979 because it was a logical extension of their own research; NBS having been one of the originators of the whole building performance concept. They did not feel, however, that DOE had completed a sufficient amount of engineering and economic research to be confident in the budget numbers as expressed in the rulemaking. Furthermore, they felt that the upgrading of the ASHRAE Standard 90 and the development of suitable subsystem energy performance criteria were essential to provide a foundation for implementing BEPS. In addition, NBS felt that much of the documentation inadequately explained the rationale for many of the technical decisions.

DOE Response: The proposed interim standards use ASHRAE Standard 90 as a format. A provision for whole performance standards is proposed in §§ 435.111 and 435.112. However, whole building budgets have not been specified in the proposal. DOE is currently researching the possibility of developing such budgets.

Today's issuance is supported by several volumes of documentation. This information was released for public comment in accordance with the above referenced **Federal Register** Notice of January 26, 1984. The documentation was made available to over 2000 individuals and organizations at that time.

II. Description of the Proposed Rule

A. Summary of the Proposed Standards

The proposed rule establishes interim energy conservation voluntary performance standards for the design of new commercial and multi-family high rise residential buildings. The proposed interim standards reflect DOE's attempt to simplify compliance, incorporate an improved understanding of building component interactions that affect energy use and ensure architectural and engineering flexibility in the earliest stages of the design of commercial and multi-family high rise residential buildings.

The format is similar but not identical to ASHRAE Standard 90A–1980 recommended for the design of new commercial buildings by the American Society of Heating Refrigerating and Air-Conditioning Engineers, Inc. There are several obvious and significant differences:

1. Lighting analysis precedes the building envelope analysis. This was done so that designers could determine lighting loads (and other internal loads) before the envelope is designed;

2. The proposed interim standards also contain Principles of Effective Energy Conserving Building Design that provide designers with ways to produce good building energy designs. The general principles appear in Section 435.102 and each of the subsequent sections contains its own specific principles that would be applied to the building design;

3. There are three methods of compliance—prescriptive, system performance, and energy budget. The prescriptive and system performance paths are interchangeable in that the decision to use either the prescriptive or system performance methods may be made on a component by component basis. The selection of the energy budget method requires the consistent application of the methodology throughout the building design process. There are two separate energy budget compliance paths from which to choose;

4. Each of the component sections sets mandatory minimum design requirements. These proposed minimum requirements are either fundamental to good practice or they represent the minimum state-of-the-art in the effective use of energy in the design and operation of new buildings. All the stated minimum requirements must be met regardless of the elected method of compliance.

These changes were intended by DOE to facilitate the voluntary use of the proposed interim standards by designers who will not be subject to the Federal regulatory requirements. DOE believes that the proposed interim standards will allow for greater interaction between the requirements for different building systems, increase designer flexibility, and produce energy efficient and cost effective commercial and multi-family high rise residential buildings. A more

detailed description of the proposed interim standards is presented below.

B. Section by Section Description

1. Proposed Section 435.097: Purpose

Proposed § 435.097: The proposed 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, these proposed regulations provide that except in the case of Federal buildings, use of the proposed interim standards is voluntary. However, DOE recommends use of these proposed interim standards for the design of energy efficient non-Federal new commercial and multi-family high rise residential buildings. The interim standards proposed today would be used by a Federal agency for the design of a new commercial building or a multi-family residential building, of more than three stories, constructed by or for the use of a Federal agency that is not legally subject to State or local building codes.

2. Proposed Section 435.098: Scope

Proposed § 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.

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. Proposed Section 435.099: General Definitions and Acronyms

Proposed § 435.099 provides a listing of all the general definitions and acronyms used in the text of the proposed interim standards.

4. Proposed Section 435.100: Explanation of Numbering System for Standards

Proposed § 435.100 provides an explanation of the unique numbering system used in the Standards. The Standards use 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 10 of the Code of Federal Regulations. Within each section, a decimal system more common to the buildings industry is used, such as 9.4.2. This number identifies a specific subsection in Proposed § 435.109. For purposes of clarity, the first five digits are dropped from the subsection number.

5. Proposed Section 435.101: Implementation and Compliance Procedures for Federal Agencies

The proposed § 435.101 prescribes the process for meeting the requirements of the proposed rule. It imposes the requirements of the proposed interim standards on each Federal agency responsible for the construction of a Federal commercial or multi-family high rise residential building. 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 methods.

1. The *prescriptive* alternative specifies particular building elements, such as the attributes of the building envelope, efficiency of lamps and ballasts, or the coefficient of performance (COP) of air conditioners.

2. The *systems performance* alternative specifies criteria for the design of the energy-using and transfer systems of buildings. For lighting it provides a procedure for determining the upper lighting power limits for buildings, roads and grounds. For the building exterior envelope, this proposed section considers a number of factors important in appropriate thermal 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 systems performance requirements, but which does not meet the specific requirements of those compliance paths. DOE is very interested in comments on the approaches used in the two building energy alternatives. Those who comment are asked to either state a preference between the two paths or point out the strong and weak points of each.

Proposed § 435.101 also permits an interchangeable approach that permits a designer to select between the prescriptive and system performance methods as he begins to design each building system. 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 systems 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 control requirements 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 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, either must be used consistently throughout the design process.

The widespread use of prescriptive criteria tends to inhibit the design of innovative and creative building energy systems since detailed component specifications are the basis of the criteria. The building energy method of compliance is far more flexible, even though it is 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. At some point in time, it is expected to become the recommended procedure but this is not likely to occur until designers become sufficiently familiar with its use.

The proposed interim standards have already been analyzed for life cycle cost

effectiveness and have been found to be cost effective. 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 proposed 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. Proposed Section 435.102: Principles of Effective Energy Building Design

This proposed 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 proposed 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. It 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 renewable energy where possible.
- Improve energy using system efficiency.
- Improve transport 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 from building loads, through systems, to energy management control systems and building operation and documentation so as to parallel the building design process. The specific strategies are found in each subsequent proposed section.

7. Proposed 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 proposed subsection identifies the types of rooms, spaces and areas of a building that are included by the proposed 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.

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.

3.3 Minimum Requirements

Minimum requirements have been specified for the use of the following:

- Lighting power allowances;
- Lighting controls;
- Adjusted lighting power and power adjustment factors; and
- Fluorescent lamp ballasts.

3.4 Prescriptive Compliance Alternative

This proposed subsection provides a prescriptive procedure for determining the upper power limits for illumination systems installed in new commercial 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.

3.5 System Performance Compliance Alternative

This proposed subsection spells out a systems 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 proposed 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, or group of buildings in a facility 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.

8. Proposed Section 435.104: Auxiliary Systems and Equipment

This proposed 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.

4.2 Principles of Design

The principles of effective energy conserving design that are applicable to this system are contained in proposed § 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.

9. Proposed Section 435.105: Building Envelope

This proposed 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 proposed subsection are for determining compliance with the proposed 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.

5.3 Minimum Requirements

Minimum requirements for the building envelope have been set for the following:

- Overall thermal transmittance;
- Thermal transmittance of an element of an envelope assembly;
- Gross area of envelope Components;
- Shading coefficients;
- Air leakage and moisture migration; and
- Shell buildings.

5.4 Prescriptive Compliance Alternative

This proposed subsection requires the use of Alternate Component Packages 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.

5.5 System Performance Compliance Alternative

This proposed 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;
- Wall thermal transmittance;
- 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.

10. Proposed Section 435.106: Electric Power and Distribution

This proposed section identifies the scope, design principles, minimum requirements for the electric power and distribution system.

6.1 General

Emergency systems do not have to comply with the requirements of this proposed 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. Proposed Section 435.107: Heating, Ventilation and Air-Conditioning (HVAC) Systems

This proposed section establishes the proposed scope, design principles, minimum requirements, and prescriptive compliance requirements for heating, ventilating and air conditioning systems.

7.1 General

This proposed 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.

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.

7.4 Prescriptive Compliance Alternative

This proposed 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.

12. Proposed Section 435.108: Heating, Ventilation, and Air-Conditioning (HVAC) Equipment

This proposed section identifies the scope, design principles, minimum requirements, prescriptive and system performance methods for heating, ventilating and air conditioning equipment.

8.1 General

This proposed subsection establishes proposed 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 proposed section, the proposed rule requires Federal agencies to use the more stringent 1992 equipment efficiencies.

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.

13. Proposed Section 435.109: Service Water Heating Systems

This proposed 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 proposed 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 turninq 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;
- Equipment insulation;
- Piping insulation;
- Heat traps;
- Temperature controls;
- Swimming pools;
- Combination service water heating/space heating equipment; and
- Use of waste heat, solar energy and thermal storage.

9.4 Prescriptive Compliance Alternative

This proposed subsection provides the criteria for the design of the service water heating systems and equipment using the prescriptive path. Prescriptive criteria is provided for the following:

- Combination service water heating or space heating boilers;
- Use of waste heat or solar energy; and
- Equipment efficiencies of electric water heaters.

14. Proposed Section 435.110: Energy Management

This proposed section identifies the scope, design principles and minimum requirements.

10.1 General

This proposed 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.

15. Proposed Section 435.111: Building Energy Cost Compliance Alternative

This proposed section sets forth the requirements for using one of two alternative methods of compliance. This alternative, as opposed to the one found in proposed § 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. Proposed § 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 proposed standards.

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 systems performance procedures.

Building energy compliance analyses are not required for proposed designs that meet either the prescriptive or systems performance compliance paths. This compliance path is only required 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 proposed section for evaluating proposed design alternatives, in preference to using the prescriptive and systems 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. Proposed Section 435.112: Building Energy Compliance Alternative

This proposed section is constructed under the same basic approach as that found in proposed § 435.111. It too provides an alternative path for compliance with the proposed interim standards that allows flexibility in the design of buildings. However, compliance under this proposed 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 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 proposed 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 Department is interested in public response to the use of "site" conversion factors in this rulemaking. It is especially interested in comments on whether the approach taken favors one fuel type over another and whether it provides the designer sufficient flexibility in choosing subsystems.

The same basic procedures used in proposed § 435.111 are also used in proposed § 435.112 with some minor exceptions. The proposed design is defined by the energy that would be consumed within the five foot line of a proposed building per square foot per year over a 24 day, 365-day year and specified operating hours. The estimated energy use is then compared to a calculated target determined by calculating the annual energy usage for a prototype or reference building that is configured to comply with the standards.

This approach would normally be favored by governmental entities and large owners who would be interested in tracking energy use and costs over the life of a building.

III. The Research

The research employed to develop the proposed interim standards comprised four major elements performed sequentially but with considerable overlap: (1) Evaluation of ASHRAE 90A–1980 and the identification of its problem areas; (2) basic research to develop improvements; (3) the test for energy conservation and economic effectiveness, and (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.

The initial research was performed on a component-by-component basis. Later on in the project, however, all the component results were integrated and evaluated to determine the total building effects.

Only the first two elements are discussed in this section. The third element, the Test for Energy Conservation and Economic Effectiveness, is documented in the Economic Analysis, which is being issued jointly with this proposed rule. Section V of this preamble, Economic Analysis, summarizes the analysis and findings contained in the Economic Analysis Document. The recommendations that are identified as the fourth element above became the basis of the proposed interim standards. The nature of the requirements and criteria for the proposed interim standards have already been discussed in Section II.

A. Evaluation of the Baseline Standards

The provisions of ASHRAE 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 ASHRAE 90A–1980 to ten real building designs. Plans for the buildings were reconfigured for compliance with both ASHRAE 90–1975 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 ASHRAE 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, and 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. 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.

B. Background Research

A major portion of the project was dedicated to the background research in each of three main technical areas: envelope design, HVAC systems and equipment, and lighting.

1. Envelope Design

In order to develop design strategies that minimize energy consumption in a building's peripheral zones, the envelope design research was performed to understand the relationship between the exterior envelope and climate, internal loads, lighting and thermal comfort. An ambitious project was conducted to quantify the impact of wall, fenestration and lighting energy consumption in the peripheral zones of commercial buildings. Numerous computer analyses were run on various permutations of building design and operation across 14 climates. When a large data base had been developed and multiple regression analyses conducted, the resulting information was then used as the basis for developing new envelope requirements.

2. HVAC Systems

The research in support of new HVAC system requirements entailed two parts. First, specialized analysis was conducted to determine the effects of equipment control strategies. Second, in-depth surveys of equipment shipments and catalogue availability were conducted to determine reasonable levels for minimum equipment coefficients of performance. Case studies of air transport energy were investigated to help determine a better way to apply the Air Transport Factor to system design.

3. Lighting

The lighting research concentrated on determining a suitable power density

level for various tasks in commercial buildings. Several levels of power reduction from the ASHRAE 90A–1980 maximums were investigated. A 25% reduction from the existing level was readily achieved for all but one test building while maintaining the following criteria: (1) Target illumination requirements for task activities; (2) no significant decrease in fixture count; (3) no color degradation; and (4) no increase in fixture coefficients of utilization. The "merchandising" task power budget in the proposed interim standards was reduced by only 16%, from that suggested in the Draft Standard, because of the high proportion of incandescent lighting needed for this task.

New procedures for determining power densities were investigated to establish a simplified means of determining power levels in buildings. Finally, a performance requirement for minimum horizontal illuminance was tested but discarded because of its complexity and its overemphasis on only one of the quantitative and qualitative aspects of lighting quality.

C. Summary of Public Comment Received on 1984 Notice of Inquiry

1. Summary

On January 26, 1984, DOE issued a Notice of Inquiry (49 FR 3245 *et seq.*) to afford the public an opportunity to comment on the research used in the development of the proposed interim standards. The research included a draft of energy performance standards, hereafter referred to as the "Draft Standard". At the close of a 90-day comment period, DOE had received responses from 64 individuals, firms, and organizations. The comments dealt with four subjects: (1) Heating and cooling requirements; (2) lighting power budgeting procedures; (3) envelope design criteria; and (4) miscellaneous. These comments are discussed below.

2. Comments on Heating and Cooling Requirements

Most of the comments on heating and cooling requirements were concerned with the efficiency levels and categorization of energy conversion equipment, with specific recommendations on individual heating and cooling equipment elements, and with evaluation procedures for the selection of such equipment.

Many manufacturers and manufacturer associations indicated that the industry does not require the imposition of Federal standards, but that if they are indeed necessary, then they should be developed with more industry input. These comments indicated a misunderstanding of the function of the proposed interim standards which do not impose a Federal standard. The proposed interim standards only regulate the design practices of Federal agencies. In development of the January 1984 Draft Standard, several efforts were made to solicit industry response or recommendations with only limited success. In developing revisions to the January draft, more complete communication and coordination were maintained with industry representatives. Their input has been considered in the proposed interim standards.

Numerous comments indicated that minimum efficiency requirements should be expressed in terms of seasonal efficiency rather than for full load steady-state conditions. DOE agrees that, in principle, such a format is highly desirable. Where practical, those seasonal efficiencies are found in the proposed interim standards.

Several comments indicated that the calculation of COP's for heat pumps and like equipment should recognize supplementary heating requirements. DOE recognizes that the existing definition does not denote actual seasonal performance (including supplemental heating requirements), and would prefer to use such a performance metric if one existed. Unfortunately, the industry-wide ratings procedure does not consider the need for supplemental heat, and DOE has employed existing, widely recognized testing metrics. It is important to note that the requirements in the proposal are intended to provide a means of distinguishing between heat pump units (like equipment) and are not intended to provide an across-the-board comparison of unlike conversion equipment.

Several major equipment manufacturers and equipment manufacturer associations commented that the minimum efficiency requirements for furnace boiler equipment in the Draft Standard were set at such a high level that condensing equipment was in fact required, a condition which imposes unfair hardships upon smaller manufacturers and equipment owners. They recommend that existing industry standards be maintained. DOE agrees that the efficiency levels in the Draft Standard are too ambitious, given available technologies in the U.S., but maintains that improvement in minimum efficiency requirements over the existing industry standards is appropriate. Other suggestions concerning efficiency were that powered and atmospheric equipment should have separate efficiency requirements, as well as gas and oil-fired equipment, and low-pressured and high-pressured combustion equipment. DOE sees merit in these suggestions, and has revised the proposed interim standards accordingly.

Cooling equipment manufacturers requested that packaged thermal air conditioning equipment and packaged thermal heat pumps be assigned minimum efficiency requirements separate from other cooling equipment because of the different siting and configuration requirements. DOE agrees, and has revised the proposed cooling efficiency requirements accordingly.

There were several suggestions that the benefits provided by zoned electric resistance heating should be stressed in the proposed interim standards. DOE recognizes the benefits of zoned resistance units. However, the proposed rule does not compare the efficiencies of various heating distribution systems since insufficient data are available to justify such comparisons. Until such time as heating distribution system efficiency criteria can be included in the proposed interim standards, no particular types of systems are recommended.

There were several recommendations that efficiency requirements be included on ground-water source heat pumps. DOE agrees and has provided such requirements in the proposed interim standards.

There were several recommendations that treatment of Energy Management and Control Systems (EMCS) be expanded to include selection criteria. DOE agrees that EMCS can be a very important component of an efficient building design, but feels that providing quantitative criteria at this time is impossible, given the young state of the technology and the need to tailor such systems to building needs.

One comment pointed out the need for providing more detailed Air Transport Factor (ATF) specifications, given the importance of ATF in the overall energy commercial buildings. DOE agrees and has revised its treatment of ATF to provide more detailed criteria.

Several who commented indicated that the proposed interim standards should consider storage systems within the HVAC portions of the proposed interim standards. DOE agrees that energy storage systems offer promising solutions to many energy problems. DOE maintains, however, that these storage technologies can be properly considered only under the building energy approach (Proposed Section 435.111 or 435.112) because of the need for a careful design that is integrated

with envelope, lighting, and other HVAC decisions.

3. Comments on Lighting Requirements

More comments were received on the lighting requirements than on any other technical area, with most of those comments concerned with the Unit Power Density (UPD) values contained within the Draft Standard.

Many of those who commented claimed that the revised UPD values were developed without adequate consideration of the role of power in lighting quality, and were inadequate (too low). Their comments cite numerous perceived shortcomings in the technical analyses. Others commended DOE on its recognitions that existing lighting standards were too lenient, and agreed with the recommendations. DOE recognizes that this is a complex area and is endeavoring to resolve the numerous technical issues with a workable approach. DOE has issued revised recommendations for the proposed interim standards that are intended to balance lighting quality and conservation considerations.

There were several comments that outdoor lighting allowances were too low. DOE believes that the proposed means of calculating these levels is appropriate and should remain unchanged from the Draft Standard (5% of internal budget) and that the reduction in outdoor lighting allowances that results from lower indoor levels is appropriate. Several of the comments with respect to outdoor lighting appear to be based upon a misreading because these comments failed to see that the allowance for parking lots remain unchanged from the existing industry standards, and the fact that the Draft Standard does not cover campus lighting requirements.

One comment indicated that national (and perhaps other) monuments need to be specifically excluded from compliance with the outdoor lighting limits. DOE agrees and has strengthened exclusionary language in the proposed interim standards.

One major lighting manufacturer claims that lighting designers were treated unfairly as compared to HVAC engineers in the levels of flexibility allowed under the Draft Standard. DOE believes that similar levels of flexibility are provided, and points out that the lighting criteria are modeled on existing industry standards.

The same manufacturer feels that emphasizing the lighting requirement at the beginning of the design requirements for the Draft Standard (Section 4.0) suggests a "preoccupation with conservation from lighting." This comment becomes moot with the advent of the new format in the proposed interim standards where lighting appears as a function of each compliance path as well as in the mandatory criteria applicable to each path.

Numerous comments were received on the daylighting elements of the Draft Standard. Several comments claimed that daylighting technologies are not appropriate for all situations, and that daylighting should not get a blanket recommendation. DOE agrees, and believes that the proposed interim standards clearly indicate that daylighting should only be employed as appropriate for specific design needs, not as a universal design solution applicable to each and every situation.

Other comments indicated that daylighting should receive a larger credit than the 20% unit power density (UPD) allowance granted in the Draft Standard, since the potential for energy conservation is greater. DOE agrees that there are often greater savings generated by daylighting technologies, but believes that the 20% is appropriate for this need. DOE believes that there is no need to allow daylighting savings to be traded in on excess lighting power densities since the basic UPD approach is designed to provide adequate budget levels. Today's proposal is, after all, conservation standards, and conservation gains should be maintained to the extent possible.

4. Comments on Envelope Requirements

Fewer comments were received on the specifics of the envelope requirements than on either HVAC or lighting requirements, despite the radical change in the format from ASHRAE Standard 90. Most comments treated format issues rather than the actual requirements, with some concern about increased complexity of the compliance process. There were, however, comments indicating that the improved design results warrant the increased complexity.

Several who commented recommended that DOE include consideration of mass external to insulation as well as internal mass in envelope design, and one comment indicated that specific requirements should be levied for the proportion of wall that must be massive in order to qualify for the mass credit. DOE agrees and has revised the envelope criteria accordingly.

There were several expressions of concern that the climate data required as input to the envelope design process were not readily available from ASHRAE or anyone else. DOE recognizes this problem, and has taken steps to see that (1) the input requirements for data are simplified, and (2) that the input data required are available in readily usable formats.

Several comments requested that the envelope heating, cooling and peak factors be expressed in engineering units rather than a unitless format. DOE feels that such identification could be misleading or misused, given that the envelope loads calculated in the equations do not represent total loads, but just those related to conduction, solar, and lighting, and feels that unitless compliance values are appropriate.

Several who commented observed that, in certain regions of the country, the heating and peak cooling criteria in the Draft Standard were too restrictive. DOE has reviewed the criteria across all climates to ensure reasonable design requirements. Modifications to the coefficient and criteria curves have resulted.

5. Miscellaneous Comments

Several comments recommended that ASHRAE 62–1973 rather than 62–1981 be cited as the source of commercial building ventilation requirements, noting that 62–1981 was rejected by the American National Standards Institute (ANSI) for procedural inadequacies and is presently under redevelopment by ASHRAE. However, DOE feels it should use the state-of-the-art standards, so as to ensure the health and welfare of building occupants. Since 62–1973 has been superceded by 62–1981, DOE is unaware of any reasonable alternative to the more recent standard. When 62–1981 has been revised, DOE will consider use of the revision in this program.

Others who commented were concerned with the whole-building budget approach, both with the § 435.111/435.112 base building methodology, and with DOE's stated intent to substitute whole building energy budget numbers for the comparison methodology at the time of issuance of the final standards. There were two major concerns: Determining equivalence between fuel types and sources, and the need to consider the benefits of peak-shifting (e.g., storage systems) technologies. DOE feels that the proposed § 435.111 approach of distinguishing between fuel types based upon price is appropriate for the comparison methodology.

IV. Environmental Assessment

DOE performed an Environmental Assessment (EA) of the proposed

interim standards pursuant to the implementing regulations of the Council of Environmental Quality (CEQ) (40 CFR Parts 1500 through 1808 and the National Environmental Policy Act of 1969, as amended, Pub. L. 91–190, 40 U.S.C. 4221 *et seq.*) and DOE Guidelines implementing NEPA. Based on the results of the EA, a determination is made whether to prepare an EIS. This EA addresses the possible incremental environmental effects attributable to the application of the proposed standards to the design of new Federal commercial and multi-family high rise residential buildings and this section summarizes the findings.

A. Finding of No Significant Impact

A Finding of No Significant Impact (FONSI) was issued by DOE on November 3, 1986.

The EA concludes that the effect of the proposed standards on a building's habitability as well as on the outdoor environment, the economy and Federal institutions, will be very small. Specific conclusions are summarized below.

B. Contents of the Environmental Assessment Documents

1. Background

Even though it was possible that no significant negative impacts would result from the issuance of this proposed rule, DOE decided to prepare an EA rather than apply for a categorical exclusion exempting this action from further NEPA documentation. DOE concluded that an EA would be desirable because it was unclear whether an EIS was required. Also, new building standards tend to generate an enormous amount of public interest and concern, and these proposed interim standards have been designed to be used as a guideline to the private sector building design community.

2. Approach Used in the Analysis

The analysis was conducted by first reviewing the standards now in use by Federal agencies, referred to as the baseline, and then comparing them to the proposed interim standards through computer simulation. The EA calculates the differences likely to occur only in new Federal commercial and multi-family high rise residential building construction sector. Since the proposed rule will only be available for use as a guideline to the private sector, it was neither necessary nor appropriate for DOE to assess or project the impacts of the proposed interim standards on the nation's new buildings. DOE is nevertheless interested in receiving any comment from the public that addresses how the proposed rule might affect, conflict with, or complement current building practices or existing State and local standards.

The EA analyzed two alternatives, the proposed action and the no-action alternative which is also the baseline. Other alternatives such as standards with different formats or standards set at different levels were not analyzed. DOE determined that since Federal agencies are already using the life cycle costing methodolody as required under Section 545 of the National Energy Conservation Policy Act, no additional alternatives were necessary.

Before undertaking additional analysis in preparing the EA, DOE attempted to use as much of the still operative Draft Environmental Impact Statement (EIS), issued in 1979 that is relevant to this issuance. Two changes are evident. The draft EIS inadequately discussed the subject of reduced ventilation rates and infiltration in commercial and multi-family high rise residential buildings. Many of the comments received from government agencies, research organizations and the public reflected their concern that energy standards programs could result in the deterioration of indoor air quality and adversely affect public health. The EA therefore includes a more substantive discussion of this subject. Note, however, that unlike residences, commercial buildings are usually actively ventilated so changes in infiltration rates will have little impact on indoor air quality during occupied periods. The other major difference between the Draft EIS and the current EA is the use of ASHRAE 90A–1980 as the baseline standard rather than ASHRAE 90–1975. This change was made because all Federal agencies are currently including ASHRAE 90A–80 or an equivalent into their specifications for new buildings.

C. Specific Findings

Radon: Calculated values for indoor air concentrations of radon indicate the changes in building insulation materials, HVAC, lighting and service water design do not increase the level of radon concentration for the redesigned commercial building over the base building.

Organic Compounds: The concentrations of organics, including formaldehyde, several hydrocarbons and amines, were dependent on insulation materials chosen for the redesigned buildings. Primarily because of costs and the changes to insulating performance criteria in the standards, the redesigned buildings tended to have less formaldehyde emitting materials but more other organic compound materials, such as hydrocarbons and amines, than their base case counterparts. The result is that in most cases levels of formaldehyde are predicted to decline and correspondingly, higher organic concentration may occur temporarily. While the effect of formaldehyde could have long term consequences, the other organic compounds tend to decay rapidly and can be controlled by increased ventilation rates during early operation of the building.

Combustion Products: The estimated concentration of total suspended particulates (TSP) may increase slightly between the base case buildings and the redesigned buildings because HVAC modifications in the latter tend to reduce the rate that air is passed through filters. However, the incremental increase in TSP levels is small even under worst case assumptions.

Health and Safety Effects: Estimated pollutant concentrations either did not change as a result of the proposed interim standards or where they did, the changes were negligible. Although current knowledge about health effects associated with common indoor air pollutants is limited, the small changes that appear possible with the use of the proposed interim standards are unlikely to increase the risk of adverse health effects.

Outdoor Environmental Effects: Improvements in the thermal transmissivity of a building's envelope will often require additional use of insulation and panes of glass. More energy efficient buildings will reduce oil, natural gas, or electricity requirements for lighting, heating, and cooling. Any reduction in energy use will decrease the volume of associated pollutants that are released into the environment.

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 proposed rule on the quality of the environment. The Administrator provided the following comments:

> The concern of EPA with this proposal centers on indoor air quality problems which result from these new construction practices. While we endorse the adoption of Standard 62–1981 of the American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE), which DOE believes provides state-of-the-art ventilation criteria, we are concerned that these standards will not be either widely accepted or enforced.

Unfortunately the newer standards have not been widely adopted and for many buildings ASHRAE 90A–1980 is used. ASHRAE 90A–1980 provides for much lower ventilation. We remain concerned about indoor air quality, especially for those buildings governed by ASHRAE 90A–1980. To address this concern, we urge DOE to underscore in the conservation standards the importance of adequate ventilation and to encourage local code authorities to use ASHRAE 62–1981.

An additional problem is that buildings are not built to the appropriate standard and standard enforcement is weak. To address this we further recommend that DOE encourage enforcement of the applicable ASHRAE standard by local building code authorities as part of implementing DOE's standards. This might include investigating the extent to which the ASHRAE standards are currently used and enforced. DOE also may wish to encourage enforcement of the ASHRAE standards through building inspector professional societies. EPA will assist DOE in this effort if desired.

V. Review Under Executive Order 12291

Section 3 of Executive Order (E.O.) 12291 (46 FR 13193, February 19, 1981) requires that DOE determine whether a rule is a "major rule," as defined by section 1(b) of E.O. 12291, and prepare a regulatory impact analysis for each major rule.

Although no preliminary determination was made that this issuance constitutes a "major rule", DOE began to prepare a Draft Regulatory Impact Analysis (RIA) to follow the philosophy and intent of Executive Order 12291 of February 17, 1981, and to respond to the public interest expressed after the issuance of BEPS in November 1979. However, after preliminary analysis, DOE determined that the proposed rule does not meet the E.O. 12291 definition of a major rule as one likely to result in: (1) An annual effect on the economy of $100 million or more; (2) a major increase in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions; or (3) 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. Accordingly, a regulatory impact analysis was not required. However, a less formal economic analysis was prepared. The analysis concluded that no significant direct or indirect impacts are expected to occur as a result of requiring Federal agencies to design their new commercial and multi-family high rise residential buildings to the proposed interim standards as specified in this issuance.

A. Objective and Scope of the Research

The Draft Regulatory Impact Analysis prepared and issued jointly with the proposed BEPS in 1979 as Technical Support Document No. 6 is no longer applicable to the present program. Consequently, a new regulatory analysis was undertaken to discern what economic impacts, if any, might result from applying the proposed interim standards to Federally-constructed commercial and multi-family high rise residential buildings. Only impacts which result from Federal agency compliance were covered in the analysis. The analysis did not calculate the effects and impacts on the private sector from voluntary compliance since the proposal is mandatory only for Federal construction practices.

B. Impacts

The primary national effects of Federal agencies using the proposed interim standards would be to reduce energy expenditures by $141.9 million (in present value terms) over a 20-year period; reduce electricity expenditures by $140.6 million; and reduce natural gas costs by $1.3 million. In physical units, 8.6 trillion Btus of electricity and 0.6 trillion Btus of gas would be saved. Operations and maintenance costs would decline by $20.3 million and capital expenses by $3.4 million. The reduction in capital is primarily due to downsizing of the heating and air conditioning systems resulting from the decrease in internal loads expected from lighting, solar gain, etc.

The macroeconomic changes that occur as a result of imposing the proposed interim standards on Federal agencies are modest even in the extreme.

With the exception of certain types of commercial buildings built in Seattle where capital costs are among the highest in the nation and energy is currently the cheapest of the regions examined, no region suffers as a result of the proposed interim standards. Buildings constructed in all regions under the proposed interim standards should result in reduced costs of ownership and operation.

C. The Analysis Process

Impacts were assessed by using a two part process. In the first part, the costs of the Federal government for constructing, operating, and maintaining ten commercial and multi-family high rise residential buildings in five locations were calculated for both a base case and a standards case. The base case assumed that all buildings were designed using the ASHRAE Standard 90A–1980 which all Federal agencies are presently required to use and the standards case assumed that these buildings had been designed using the proposed interim standards.

In the second step, the costs of ownership of the individual buildings were aggregated to derive net direct benefits. Life cycle costs to build, operate and maintain the buildings for 75 years were conducted and then normalized to obtain a cost per square foot of floor space.

Only the proposed interim standards and the base case alternatives were analyzed in detail. Other possible approaches are discussed and the reasons for not fully analyzing them are explained in the second section of the economic analysis.

The analysis used only those building categories for which DOE had chosen to test the proposed interim standards and had conducted redesign and computer simulations of energy use and life cycle cost analysis. Ten categories were used: Small and large retail, small, medium and large offices, warehouses, educational buildings, public assemblies, hotel/motel, and multi-family high-rise.

D. Regulatory Flexibility Act

The Regulatory Flexibility Act (5 U.S.C. 603, 604) requires DOE to calculate the effect their rulemaking will have on small business in the nation. Small business impacts have been analyzed for manufacturers of building and construction materials and equipment, architects, builders and construction companies, and utilities.

The analysis contained in section 5 of the Economic Analysis, determined that this rulemaking will have no impact on small business concerns.

E. OMB Review

Pursuant to section 3(c)(3) of E.O. 12291 these rules were submitted to the Director of the Office of Management and Budget (OMB) for review. The Director has concluded his review under that Executive Order.

VI. Section 32 Findings

The proposed rule references several building industry standards and requires building designers to use these standards in order to comply with the proposed 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 proposed rule are listed below:

American National Standards Institute (ANSI) Standard C-82.2 (1983), *Methods of Measurement of Fluorescent Lamp Ballasts.*

ANSI Standards for HVAC Equipment Testing and Rating—Standards A21.47-1983, A112.18.1M-1979, Z21.10.3-1984, Z21.13-1982, Z21.40.1-1981, Z21-40.1a-1982, Z21.56-1983, Z83.9-1982.

ANSI Standard C-82.1-1985, *Specification for Ballasts for Fluorescent Lamps.*

ANSI C-82.3-1983, *Standard for Reference Ballasts for Fluorescent Lamps.*

ANSI/American Aluminum Manufacturers Association (AAMA) Standard 101-85, *Aluminum Prime Windows and Sliding Glass Doors.*

ANSI/Association Home Appliance Manufacturers (AHAM) Standard RAC-1-1982.

ANSI/National Woodwork Manufacturers Association (NWMA) Standard I.S. 2-1980, *Wood Window Units (Improved Performance Rating Only).*

American Society of Mechanical *Power Test Codes, PTC-4.1-74.*

Air-Conditioning and Refrigeration Institute (ARI) Standards for HVAC Equipment Testing and Rating—Standards 210 (1981), 210 (1984), 240 (1984), 240 (1981), 310 (1985), 320 (1985), 325 (1985), 340 (1985), 360 (1985), 365 (1985), 380 (1985), 550 (1983), 560 (1982), 590 (1981).

American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE) Standard 62-1981, *Ventilation for Acceptable Indoor Air Quality.*

ASHRAE Standard 55-1981, *Thermal Environment Conditions for Human Comfort.*

American Society for Testing and Materials (ASTM) Standard C-177-76, *Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Guarded Hot Plate.*

ASTM Standard C-236-80, *Standard Test Method for Steady-State Thermal Performance of Building Assemblies by Means of a Guarded Hot Plate.*

ASTM Standard E-238-84. *Standard Method of Test for Rate of Air Leakage through Exterior Windows. Curtain Walls and Doors.*

ASTM Standard C-335-79, *Test Method for Steady-State Heat Transfer Properties of Horizontal Pipe Insulations.*

ASTM Standard C-518-76. *Steady-State Thermal Performance of Building Assemblies by Means of a Guarded Hot Box.*

ASTM Standard C-976-82. *Thermal Performance of Building Assemblies by Means of a Calibrated Hot Box.*

ASTM Standard E-283-84. *Standard Method of Test for Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors.*

ASTM Standard D-4099-83. *Specifications for Poly (Vinylchloride) (PVC) Prime Windows.*

DOE HVAC Equipment Testing and Rating Procedures, CFR, Title 10, Part 430, 1985.

Hydronics Institute (HI) Heating Boiler Standard-82.

Institute of Electrical and Electronics Engineers (IEEE) Standard 112A, *Test Method B (1978) Dynomometer for Motors below 500 HP.*

IEEE Standard 112A. *Test Method F (1978) Equivalent Circuit Calculation based on No-Load Measurements.*

Midwest Insulation Contractors Association, *Commercial and Industrial Insulation Standards (1983).*

NWMA Standard I.S. 3-1983, *Wood Sliding Patio Doors.*

Sheet Metal and Air-Conditioning Contractors National Association (SMACNA), *HVAC Duct Construction Standards, Metal and Flexible (1985).*

SMACNA *Fibrous Glass Construction Standards, 5th edition (1979).*

Underwriter's Laboratories HVAC Equipment Testing and Rating Procedures-726-80, 727-80, 731-74.

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.

VII. Public Comment Procedures

A. Participation in Rulemaking

DOE encourages the maximum level of public participation in this rulemaking. Following the publication of the previous Notice of Proposed Rulemaking on November 28, 1979, five public hearings were held to acquaint the public with issues relating to the BEPS rulemaking and invite public participation in the rulemaking process. Over 1,800 comments were received by DOE in response to the NOPR, many coming during the public hearings. Following the issuance of the January 26, 1984, Notice of Inquiry yet another comment period and public hearing were held. At that time 64 comments were received.

The Department again encourages interested persons to participate in this rulemaking. Individuals, Federal agencies, architects, engineers, utilities, States and local governments, building code organizations, builders, builder associations, building owners, building owner associations, consumers, and others are urged to submit written statements on the proposal. The Department also encourages interested persons to participate in the public hearings to be held in Washington, DC, New Orleans, Louisiana, and San Francisco, California at the times and places indicated at the beginning of this Notice. An Environmental Assessment and Economic Analysis have been prepared in connection with this proposed rule and are referenced in the text of this Notice. Copies of these documents may be found in the DOE Freedom of Information Reading Room. Interested persons may obtain copies of these documents by writing to the Hearings and Dockets Office at the address listed at the beginning of this notice.

DOE has established a comment period of 90 days following publication of this notice, for interested persons to comment on this proposal. All comments will be available for review in the DOE Freedom of Information Reading Room.

B. Written Comment Procedures

Interested persons are invited to participate in this proceeding by submitting written data, views or arguments with respect to the subjects set forth in this notice. Instructions for submitting written comments are set forth below.

Comments should be labeled both on the envelope and on the documents, "Commercial and Multi-Family High Rise Residential Building Standards (Docket No. CAS-RM-79-112-C)" and must be received by the date indicated in the beginning of this notice, in order to insure full consideration. Seven (7) copies are requested to be submitted. All comments received by the date specified at the beginning of this notice and other relevant information will be considered by DOE before final action is taken on the proposed regulation. All written comments received on the proposed rule will be available for public inspection at the Freedom of Information Reading Room as provided at the beginning of this notice.

Pursuant to the provisions of 10 CFR 1004.11, any person submitting information or data which the submitting person believes to be confidential and exempt by law from public disclosure, should submit one complete copy of the document, and six copies, if possible, from which the information believed to be confidential has been deleted. DOE will make its own determination with regard to the confidential status of the information or data and treat it according to its determination.

Factors of interest to DOE, when evaluating requests to treat as confidential information that has been submitted include: (1) A description of the item; (2) an indication as to whether and why such items of information have been treated by the submitting party as confidential within the industry; (3) whether the information is generally known or available from other sources; (4) whether the information has previously been made available to others without obligation concerning its confidentiality; (5) an explanation of the

competitive injury to the submitting person which would result from public disclosure; (6) an indication as to when such information might lose its confidential character due to the passage of time; and, (7) whether disclosure of the information would be in the public interest.

C. Public Hearings

1. Procedure for Submitting Requests to Speak

In order to have the benefit of a broad range of public viewpoints in this rulemaking, DOE will hold three public hearings. Listed earlier in this notice are the dates and addresses for the hearings. Any person who has an interest in these proceedings, or who is a representative of any group or class of persons having an interest, may make a request for an opportunity to make an oral presentation at any of the public hearings. Such requests should be labeled both on the letter and the envelope, "Commercial and Multi-Family High Rise Residential Building Standards (Docket No. CAS–RM–79–112–C)" and should be sent to the address and must be received by the time specified at the beginning of this notice.

The person making the request should briefly describe the interest concerned and, if appropriate, state why he or she is a proper representative of the group or class of persons that has such an interest, and give a telephone number where he or she may be contacted.

Each person to be heard is requested to bring to the hearing seven copies of their statement. In the event any person wishing to testify cannot meet this requirement, alternative arrangements can be made with the Office of Hearings and Dockets in advance by so indicating in a letter requesting to make an oral presentation.

Lists of the persons to be heard at the hearings will be available upon request from the Office of Hearings and Dockets. The lists will also be available for inspection in the DOE Freedom of Information Reading Room.

2. Conduct of Hearings

DOE reserves the right to select the persons to be heard at the hearings, to schedule the representative presentations, and to establish the procedures governing the conduct of the hearings. The length of each presentation is limited to 20 minutes.

A DOE official will be designated to preside at the hearings. The hearings will not be judicial or evidentiary-type hearings, but will be conducted in accordance with 5 U.S.C. 553 and Section 501, 42 U.S.C. 7191 of the Department of Energy Organization Act, 42 U.S.C. 7101 *et seq.* At the conclusion of all initial oral statements, each person who has made an oral statement will be given the opportunity to make a rebuttal statement, subject to time limitations. The rebuttal statements will be given in the order in which the initial statements were made. The official conducting the hearing will accept additional comments or questions from those attending, as time permits. Any interested person may submit to the presiding official written questions to be asked of any person making a statement at the hearings. The presiding official will determine whether the question is relevant or whether time limitations permit it to be presented for a response.

Any further procedural rules regarding proper conduct of the hearings will be announced by the presiding official.

Transcripts of the hearings will be made, and the entire record of this rulemaking, including the transcripts, will be retained by DOE and made available for inspection at the DOE Freedom of Information Reading Room as provided at the beginning of this notice. Any person may also purchase a copy of the transcript from the transcribing reporter.

DOE may consolidate any or all of the public hearings if DOE does not receive sufficient interest concerning a particular hearing. In that event, DOE will contact each speaker and provide that person the opportunity to present testimony at any of the other hearings. However, DOE will not provide transportation or lodging for such speakers to appear at a hearing. DOE will include for the record at one of the other hearings a copy of the statement of any person who requested to speak at a hearing that was cancelled by DOE.

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, Voluntary performance standards.

For the reasons set out in the preamble, Part 435 of Chapter II of Title 10 of the Code of Federal Regulations is proposed to be amended by adding a new Subpart A as set forth below.

Issued in Washington, DC on April 23, 1987.

Donna R. Fitzpatrick,

Assistant Secretary, Conservation and Renewable Energy.

Chapter II of Title 10, Code of Federal Regulations is proposed to be amended by adding Subpart A to proposed Part 435 as follows:

PART 435—ENERGY CONSERVATION VOLUNTARY PERFORMANCE STANDARDS FOR NEW BUILDINGS

Subpart A—Voluntary Performance Standards for New Commercial and Multi-Family High Rise Residential Buildings

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; National Energy Conservation Policy Act, Sec. 545, 42 U.S.C. 8255; Department of Energy Organization Act, 42 U.S.C. 7101 *et seq.*

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Subpart A—Voluntary Performance Standards for New Commercial and Multi-Family High Rise Residential 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 more than 3 stories;

(2) A building used for industrial processes;

(3) Spaces within a building used for industrial and commercial processes that have substantial energy requirements specific to such processes and unrelated to the heating, cooling, ventilating, service hot water heating and lighting of a building; and

(4) A building or portions of a building whose peak design rate of energy use is less than 3.5 watts per hour per square foot of gross floor area for all purposes.

§ 435.99 General definitions and acronyms.

(a) For the purpose of this subpart:

"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.

"British thermal unit" means the amount of heat required to raise the temperature of one pound of water from 59 F° to 60 F°.

"Btu" means British Thermal Unit.

"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 design" means the architectural and engineering drawings and specifications used for the construction of a new building.

"Commercial building" means a new building other than a residential building, including any building developed for industrial or public purposes whose peak design rate of energy use is more than 3.5 watts per hour per square foot of gross floor area.

"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.

"Design energy consumption" means the computed annual energy consumption of a proposed building design.

"DOE" means the U.S. Department of Energy.

"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.

"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 total lighted area of a building measured from the inside of the perimeter walls, for each floor of the building.

"Gross roof area" means the gross area of a roof assembly that consists of the total surface of the roof assembly exposed to the outside air. The roof assembly shall be considered to include all roof/ceiling components through which heat may flow between indoor and outdoor environments including skylights and clerestory surfaces.

"Heat Capacity" means the amount of heat necessary to raise the temperature of a given mass one degree Fahrenheit; numerically the mass multiplied by the specific heat.

"Heat Trap" means 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 periods of standby.

"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.

"Integrated Part-Load Value" means a single number figure of merit based on the part-load Energy Efficiency Ratio (EER) or Coefficient of Performance (COP) expressing part load efficiency for air-conditioning and heat pump equipment on the basis of weighted operation at various partial load capacities for the equipment.

"Lighting Building Area" means the floor area of all spaces including basements, mezzanines, partitions, elevator and utility shafts measured from the inside face of exterior walls.

"Minimum Life Cycle Cost Methodology" means the methodology specified in Subpart A of 10 CFR Part 436.

"Multi-family high rise residential building" means a residential building containing three or more dwelling units and is designed to be three or more stories high.

"Multi-family low rise residential building" means a residential building containing three or more dwelling units and is designed not to exceed three 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.

"Opaque areas" means all exposed areas of a building envelope that enclose conditioned space, except windows, skylights, doors and building service systems.

"Power Adjustment Factor" means a modifying factor less than 1.0 to reduce the connected lighting power budget of a space to account for the use of energy conserving lighting control devices.

"Residential building" means a building that is constructed and developed for residential occupancy.

"Room area" means, for lighting power determination, the area of a room or space shall be determined from the inside face of the walls or partitions measured at work plane height.

"Shading Coefficient" means the ratio of absorbed and transmitted solar heat relative to fenestration fitted with shading devices to that of unshaded ⅛ inch clear double strength glass.

"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.

(b) 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/h	British Thermal Units Per Hour.
C	Thermal Conductance.
C_c	Cooling Criteria.
CDD	Cooling Degree-Days.
CDH	Cooling Degree-Hours.
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.
DR	Average Daily Temperature Range for Warmest Month.
EER	Energy Efficiency Ratio.
ELPA	Exterior Lighting Power Allowance.
F°	Fahrenheit-Degrees
FLPL	Facility Lighting Power Limit.
HC	Heat Capacity.
HDD	Heating Degree-Days.
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.
IEPA	Interior Equipment Power Allowance.
IES	Illuminating Engineering Society of North America.
ILPL	Interior Lighting Power Limit.
IPLV	Integrated Part Load Value.
IRF	Internal Reflecting Film.
ISSC	Internal Shading System Coefficient.
K_h	Daylighting Factor.
kVA	Kilo-Volts.
kW	Kilo-Watts.
LBA	Lighted Building Area.
LPB	Lighting Power Budget.
NWMA	National Woodwork Manufacturers Association.
o.c.	On Center.
OMB	Office of Management and Budget.
P_b	Base Unit Lighting Power Allowance.
PAF	Power Adjustment Factor.
PTAC	Packaged Terminal Air-Conditioner.
R	Thermal Resistance.
r	Thermal Resistivity.
RLPA	Roads and Grounds Lighting Power Allowance.
S_{ea}	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.
VDT	Visual Display Terminal.
VT	Visible Transmittance.
WC	Water Column.
W	Watts.
W/ft²	Watts Per Square Foot.
W/lin.ft.	Watts Per Linear Foot.
W_h	Window Height.
WYEC	Weather Year for Energy Conservation.

§ 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, section 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.

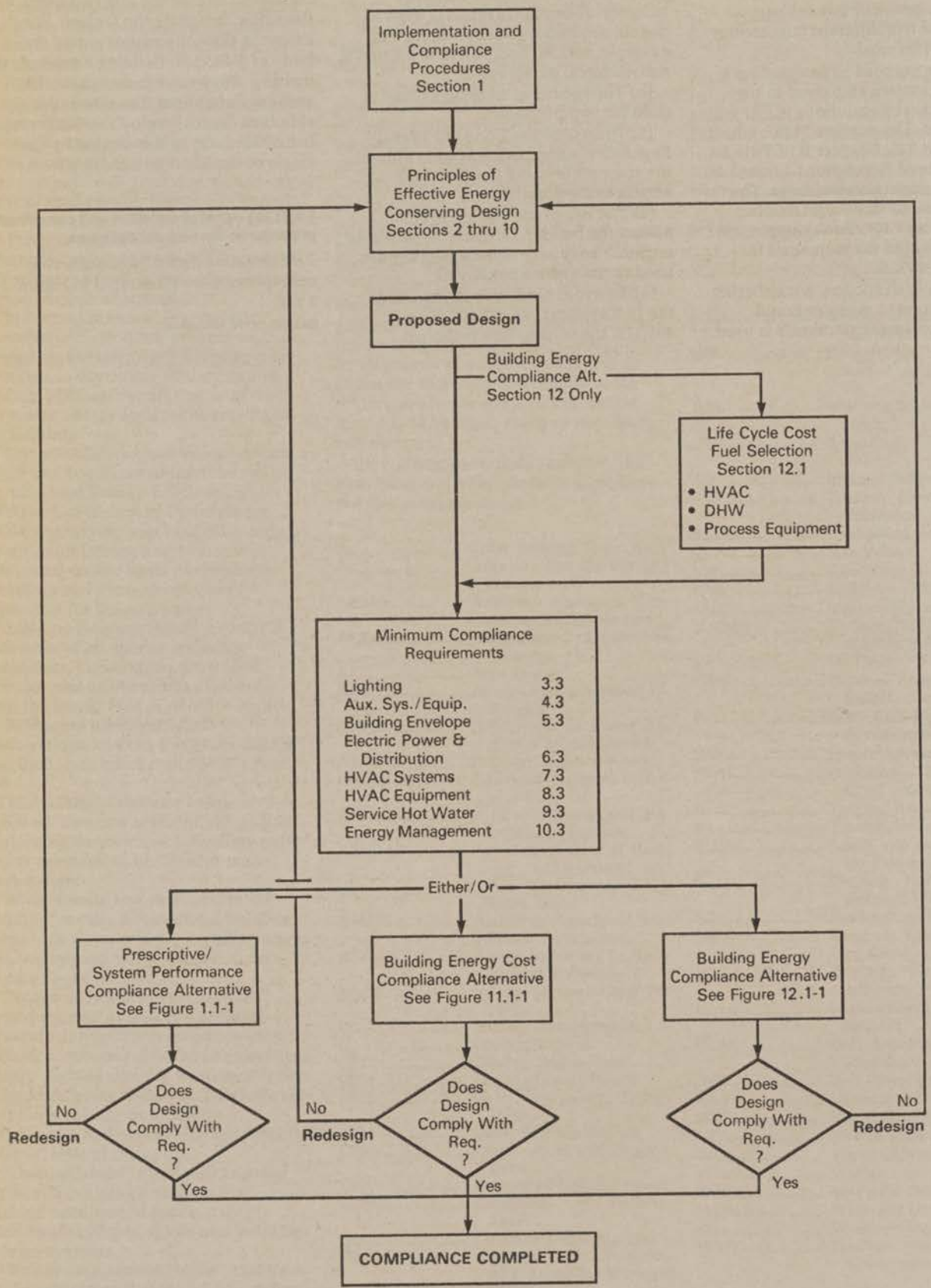
(c) To avoid confusion in the use of the two systems, §§ 435.101 through 435.112, the substantive technical sections of the standards, have been numbered so that the last two digits in the suffix designate the section. For example, once the reader enters the body of § 435.105: Building Envelope, the 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 com- pliance are illustrated in Figure 1.1–1.

BILLING CODE 6450-01-M

Figure 1.1-1.—Alternative Methods of Achieving Compliance



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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 section 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 sections 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 section 1.1.2 below, the following additional requirements:

1.1.1.3.1 The lighting design shall meet either the prescriptive requirements of section 3.4 or the systems performance requirements of section 3.5,

1.1.1.3.2 The building envelope design shall meet either the prescriptive requirements of section 5.4 or the systems 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.

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, the Building Energy Cost Compliance Alternative or the Building Energy Compliance Alternative.

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 CFR 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 and 7.4),

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 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.

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.

1.3.3 Use either of the Building Energy methods when the most innovative design concepts are being considered. The Building Energy methods allow the trade-off of energy among the building systems so 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.

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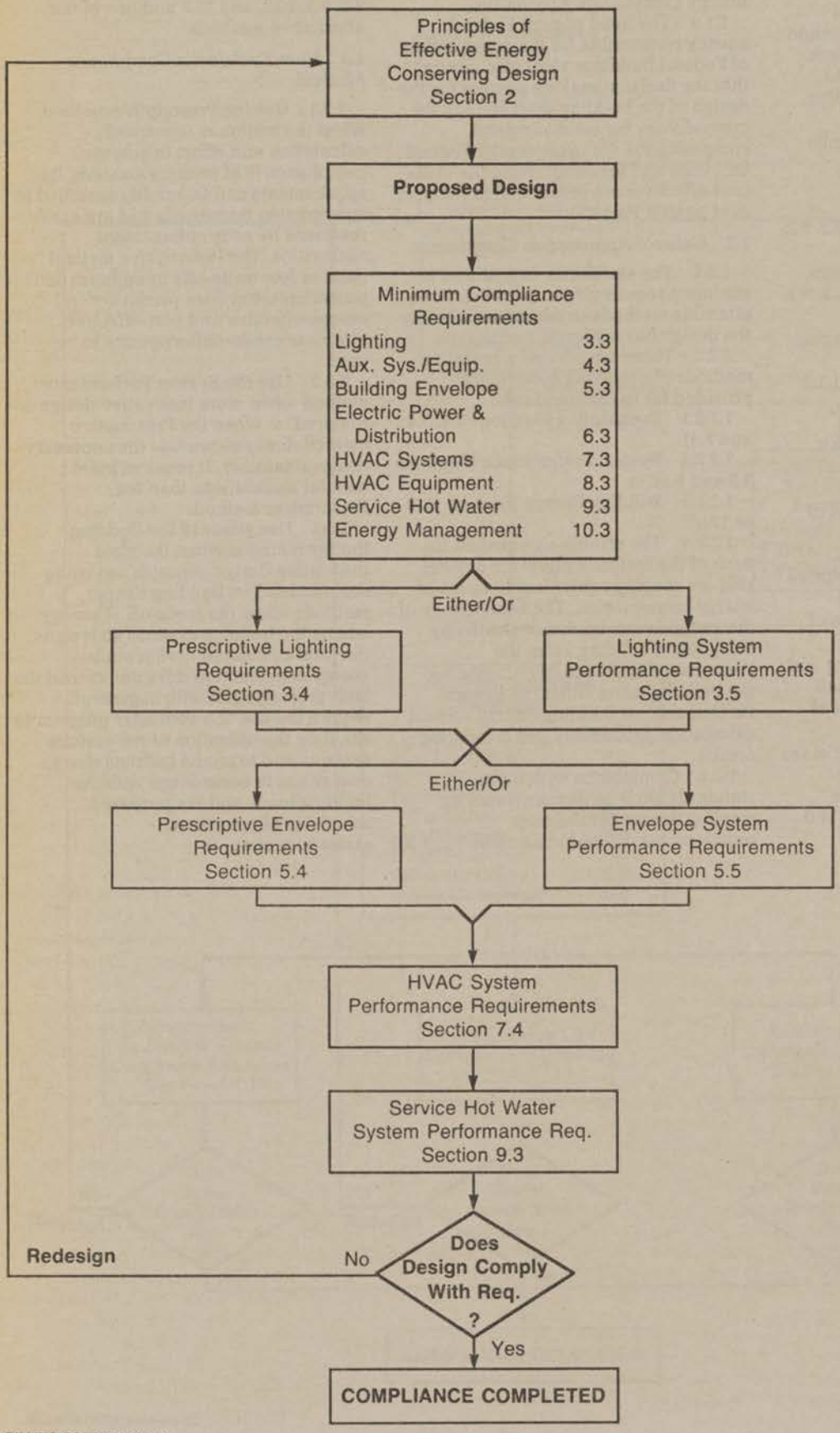
Figure 1.1-2.—Prescriptive/System Performance Compliance Alternatives



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§ 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. 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 The rooms, spaces and areas covered by this section include:

3.1.1.1 Interior spaces of commercial buildings;

3.1.1.2 Building exteriors, such as entrances, exit and loading docks; and

3.1.1.3 Roads and grounds including open-air covered areas where lighting is required and is energized through the building electrical service.

3.1.2 The following spaces and room areas are exempt from this procedure:

3.1.2.1 Outdoor processing, manufacturing, commercial greenhouses and storage facilities and activities;

3.1.2.2 Lighting power for theatrical production, television broadcasting, entertainment facilities such as stage areas and hotel ballrooms, nightclubs, discos and casinos and audio-visual presentations where lighting is an essential technical element for the function performed;

3.1.2.3 Specialized luminaires for medical and dental purposes;

3.1.2.4 Outdoor athletic facilities;

3.1.2.5 Display lighting required for art exhibits or displays in galleries, museums and monuments;

3.1.2.6 Exterior lighting for public monuments;

3.1.2.7 Special lighting needs for research;

3.1.2.8 Lighting to be used solely for indoor plant growth during the hours of 10:00 p.m. to 6:00 a.m.;

3.1.2.9 Emergency lighting that is automatically "off" during normal operation;

3.1.2.10 High risk security areas identified by local ordinances or regulations or by security or safety personnel as requiring additional lighting;

3.1.2.11 Classrooms specifically designed for the hard of seeing, hard of hearing (lip reading), and for senior citizens;

3.1.2.12 Lighting for signs;

3.1.2.13 Lighting to illuminate the exterior surface of the building;

3.1.2.14 Store-front display windows in retail facilities; and

3.1.2.15 Lighting for dwelling units.

3.1.3 In this section, daylighting credit for reduced electric lighting energy use resulting from the use of automatic lighting control devices in conjunction with fenestration only allows increased lighting power density.

3.1.3.1 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.

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. Principles of energy conserving design within that context are described below.

3.2.2 *Design Concepts.* The following guidelines identify Design Concepts to 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 and perpendicular to the rows of ceiling-mounted luminaires. When the design concept is based on non-uniform illuminance, the walls and occupant faces shall be lighted to medium color or otherwise be illuminated in order to provide visual comfort. In densely-occupied work spaces, uniform distribution of general lighting may be most appropriate. Where necessary, supplementary task 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 local 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 can be 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.

3.2.2.7 Use lighting controls throughout so properly-designed lighting is available when and where it is needed but not wasted during those times when tasks are less critical, or spaces are not fully occupied. The designer must consider user acceptance of control strategies to maximize energy saving.

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 5 times the ambient level. Consider fewer, more effectively-accented displays, rather than more ineffectively-accented ones.

3.2.3 *Fixture and lamp selection.* 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. Once the appropriate distribution is determined, fixtures with the highest classification shall be used;

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 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; and

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 relamping 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. 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 Power Density.

3.3.1.1 Roads, Grounds and Other Exterior Areas shall have a lighting power density not exceeding the values in Table 3.3–1.

TABLE 3.3–1.—LIGHTING POWER REQUIREMENTS FOR ROADS/GROUNDS

Area	Unit power density
Storage and Work Areas	0.20 W/ft².
Other activity areas for casual use such as picnic grounds, gardens, parks, and other landscaped areas.	0.10 W/ft².
Private Driveways/Walkways	0.10 W/ft².
Public Driveways/Walkways	0.15 W/ft².
Private Parking Lots	0.12 W/ft².
Public Parking Lots	0.18 W/ft².

3.3.1.2 For open-air covered areas (other than walkways), the lighting power allowance shall not exceed the Unit Power Density value given in Table 3.3–2 in accordance with the activities to be performed.

TABLE 3.3–2.—LIGHTING POWER REQUIREMENTS FOR BUILDING EXTERIORS

Area	Unit power density
Exit (with or without canopy)	20 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/ft² of canopied area.
Light traffic (hospital, office, school, etc.).	4 W/ft² of canopied area.
Loading Area	0.30 W/ft².
Loading Door	20 W/lin. ft. of door opening.

3.3.2 Lighting Controls.

3.3.2.1 With the exception of controls for emergency or exit lighting, all lighting shall be provided with manual, automatic or programmable controls.

3.3.2.2 All spaces enclosed by walls or ceiling height partitions shall be provided with a minimum of one manually operated on-off lighting control, and, in addition, one control for each principal task location assigned an area of 150 ft² or more. For rooms with more than one task, the total task area need not exceed 50% of the total area of the room.

3.3.2.2.1 There shall be at least one control for each 750 watts, or fraction thereof, of connected lighting load (including ballasts) in each space. Switches for task areas may be mounted adjacent to the switch previously required, or, if readily accessible, mounted as part of the task lighting fixture(s).

3.3.2.2.2 When multiple controls are required they shall be installed to permit reduction of general lighting in the space by at least one-half in either a uniform pattern by area or by zone, as most appropriate. When more than one ballast is provided in the lighting fixture, one of the ballasts shall be controlled separately.

3.3.2.2.3 Control of the same load from more than one location shall not be credited as additional control points.

3.3.2.2.4 Exceptions to section 3.3.2.2:

(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 in accordance with the work activities, and controls may be centralized in remote locations.

(b) The use of automatic, programmable or multi-level controls may reduce the number of required manual on-off controls, as specified in Table 3.3–3.

TABLE 3.3–3.—REDUCTION OF CONTROLS

Type of substitute control	Equivalent number of manual on-off controls
Occupancy Sensor	2
Timer—Programmable from the space being controlled	2
Three level, including off, step control or preset dimming	2
Four level, including off, step control or preset dimming	3
Automatic or continuous dimming	3

3.3.2.3 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, and those controls requiring trained operators.

3.3.2.4 Hotel and motel guest rooms shall have one or more master switches at the door that turn off all permanently wired lighting fixtures and switched receptacles, except for such fixtures and receptacles in bathrooms.

3.3.2.5 Exterior lighting shall be automatically switched by timer, photocell or combination of timer and photocell. Timers shall be of the automatic type or otherwise capable of adjustment for seasonal daylight schedule variations. All time-controllers shall be equipped with back-up mechanisms to provide for keeping time during a four hour power outage.

3.3.2.6 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 appropriate system if a separate controlled lighting system is not provided.

3.3.3 Adjusted Lighting Power and Power Adjustment Factor.

3.3.3.1 When determining lighting power compliance in section 3.4 or 3.5, the connected power for lights automatically controlled by daylight sensors, occupancy sensors or lumen maintenance controls may be reduced on a specific area by area basis. This adjusted lighting power shall be determined in accordance with Equation 3.3–1:

$$ALP = CLP \times PAF$$

Equation 3.3–1

Where:

ALP = Adjusted Lighting Power, Watts

CLP = Connected Lighting Power for the luminaires controlled by the automatic control device, Watts

PAF = Power Adjustment Factor

3.3.3.2 Power Adjustment Factor is limited to the specific area controlled by the automatic control device. The Power Adjustment Factor shall be as shown in Table 3.3–4.

3.3.3.3 Where daylighting credit is to be given, automatic controls such as photoelectric switches or automatic dimmers shall be provided in the daylit spaces.

TABLE 3.3–4.—POWER ADJUSTMENT FACTOR (PAF)

Automatic control device	Power adjustment factor
Occupancy Sensor	0.70
Daylighting Sensor:	
Continuous Dimming	0.70
Multiple Step Control	0.80
On-Off Control	0.90
Lumen Maintenance	0.90

Notes on Table 3.3–4

1. Dimming control of incandescent lamps or luminaires shall not qualify.

2. Only one adjustment factor may be used for each building space or luminaire, and 50% or more of the luminaire shall be within the applicable space to qualify for the power adjustment factor. 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. Daylighting controls shall be able to reduce electrical power consumption for lighting, continuously or in two or more steps, to 50% or less of maximum power consumption; shall control all luminaires more than 50% within a daylit space, and shall not control any luminaire more than 50% outside a daylit space.

3.3.4 Fluorescent Lamp Ballasts.

3.3.4.1 Fluorescent lamp ballasts that: are intended to operate at nominal 120 or 277 volts input voltages; have an input frequency of 60Hz; have a maximum lamp operating current less than 1000 milliamperes; and can be used to operate one or two four-foot rapid start lamps, two eight-foot slimline lamps, or two eight-foot high output rapid start lamps; are designed to be used for starting at temperatures above 40F°; and, are not specifically designed for use with dimming controls, shall have a ballast efficacy factor not less than that shown in Table 3.3–5.

TABLE 3.3–5.—BALLAST EFFICACY FACTOR—FLUORESCENT FIXTURES

Type of fixture lamping	Minimum ballast efficacy factor
One Four-foot Rapid Start	1.80
Two Four-foot Rapid Start	1.05
Two Eight-foot Slimline	0.57
Two Eight-foot High Output Rapid Start	0.39

3.3.4.2 The Ballast Efficacy Factor shall be calculated in accordance with Equation 3.3–2:

$$BEF = \frac{BF}{\text{Power Input}}$$

Equation 3.3–2

Where:
BEF = Ballast Efficacy Factor
BF = Ballast Factor, expressed as a percentage
Power Input = Total Fixture Wattage

3.3.4.2.1 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."

3.3.4.3 One-lamp or three-lamp fluorescent luminaires used for general lighting, recess mounted or surface mounted within ten feet of each other and within the same room, shall be tandem-wired to eliminate unnecessary use of single lamp ballasts. 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.

3.3.4.4 With the exception of circline and compact fluorescent lamps and low wattage, high intensity discharge lamps of less than 100 watts, fluorescent lamp ballasts shall have a power factor greater than 90%.

3.3.4.5 Provision for power factor corrective means shall be installed so that the power factor of the total building lighting load shall not be lower than 90%, lagging.

3.4 Lighting—Prescriptive Compliance Alternative.

3.4.1 Purpose.

3.4.1.1 This subsection provides a prescriptive procedure for determining the upper power limits for illumination systems installed in new buildings. It also serves as a basis for calculating the lighting heat gain and energy usage of buildings.

3.4.2 General.

3.4.2.1 This method for compliance prescribes a maximum allowable unit power density for lighting by building type as listed in Table 3.4–3. There is no recognition of specific makeup of spaces and activities within the building. The prescriptive procedure may not be applicable for large or complex buildings. However, it may be applicable during preliminary evaluations of budget requirements for these buildings.

3.4.2.2 This procedure is not to be used as a lighting design procedure. Once the lighting power limit has been determined, the designer shall strive to design a lighting system that will provide an effective and pleasing environment, without exceeding the power limit, or reducing the level of control.

3.4.3 Lighting Equipment.

3.4.3.1 Luminaires shall have a ratio of total initial lumen output from the fixture to total rated lamp lumens installed in the fixture (total luminaire efficiency as tested with energy savings ballasts and standard lamps in accordance with the *IES LM 41–1985* procedure "Photometric Testing of Indoor Fluorescent Luminaires") that meets or exceeds the minimum luminaire efficiencies specified in Table 3.4–1.

3.4.3.1.1 Luminaires that do not meet these requirements may be used if the sum of the wattage of all such equipment including non-complying fixtures and non-complying lamps does not exceed 5% of the building total Interior Lighting Power Limits (ILPL), as calculated in Section 3.4.4.2.

3.4.3.2 Lamp Efficiency.

3.4.3.2.1 Gas discharge lamps shall have a ratio of lumen output to watts-input, including ballast losses (and ballast factors for fluorescent lamps), that meet or exceed the levels in Table 3.4–2A. Lamps and ballast power input shall be measured under rated conditions in accordance with the following ANSI standards:

(a) *ANSI C82.1–1985,* "Specification for Ballast for Fluorescent Lamps."

(b) *ANSI C82.2–1984,* "Method of Measurement of Fluorescent Lamp Ballasts."

(c) *ANSI C82.3–1983,* "Standard for Reference Ballast for Fluorescent Lamps."

3.4.3.2.2 Incandescent lamps shall have minimum efficacies not less than those found in Table 3.4–2B.

3.4.3.2.3 Lamps not meeting the requirements of subsections 3.4.3.2.1 and 3.4.3.2.2 above may be used if the sum of the wattage of all such equipment, including non-complying lamps and non-complying fixtures, does not exceed 5% of the total Interior Lighting Power Limit (ILPL).

3.4.3.2.4 Lumens per watt shall be calculated in accordance with Equation 3.4–1:

$$ISLPW = \frac{LL \times BF}{\text{Power Input}}$$

Equation 3.4–1

Where:
ISLPW = Initial Lamp/Ballast System Lumens Per Watt
LL = Published Initial Lamp Lumens
BF = Ballast Factor (fluorescent systems only)
Power Input = Total Wattage of Lamps and Ballasts

TABLE 3.4–1.—MINIMUM LUMINAIRE EFFICIENCIES [1-2]

Lamp and luminaires	Type	Minimum efficiency (percent)
Incandescent	Open	65
Do	Diffuser, lens or louver	55
High Intensity Discharge	Open	55
Do	Diffuser, lens, or louver	55
Fluorescent	Prismatic lens	60
Do	Low brightness small-celled louver	40
Do	Low brightness large-celled louver	60
Do	Wrap-around lens	65
Do	Direct/indirect	65
Do	Indirect	60
Do	Industrial/bare lamp	80
Do	Circline	60
Do	Compact (twin-tube)	55

[1] These efficiencies represent energy efficient options for many common applications. Increased efficiencies may result in decreased comfort or glare control. Consequently, greater design flexibility is allowed under the system performance method, section 3.5.
[2] Minimum luminaire efficiency for fluorescent luminaires is to be based on photometric testing of the luminaire with energy saving ballast and standard lamps. Test to be conducted in accordance with *IES LM41–1985* procedure "Photometric Testing of Indoor Fluorescent Luminaires."

TABLE 3.4–2A.—MINIMUM ACCEPTABLE EFFICACY FOR GASEOUS DISCHARGE LAMP/BALLAST SYSTEMS

Lamp type	Initial lumens/watt [1]
1. Fluorescent [2]:	
3' with two-lamp ballast	48
4' with one-lamp ballast	56
4' with two-lamp ballast	67
4' with three-lamp ballast	69
8' with one-lamp ballast	66
8' with two-lamp ballast	75
2' U-Shaped with two-lamp ballast	61
5 watt compact (twin tube)	25
7 watt compact (twin tube)	35
9 watt compact (twin tube)	45
13 watt compact (twin tube)	48
20 watt circline	30
22 watt circline	35
32 watt circline	40
40 watt circline	50
2. Metal Halide:	
400 watt & above	75
250 watt	68
175 watt	65
70 watt	60
250 watt double ended	70
175 watt double ended	60
70 watt double ended	53
3. High Pressure Sodium:	
400 watt & above	105
250 watt	85
150 watt	75
100 watt	65
70 watt	60
50 watt	55
35 watt	45
4. Mercury:	
400 watt	45
250 watt	40
175 watt	35
100 watt	30
75 watt	30
50 watt	24
5. Low Pressure Sodium:	
180 watt	150
135 watt	126
90 watt	108
55 watt	100
35 watt	80
18 watt	60

[1] Includes ballast losses for lamp/ballast combinations.
[2] Includes ballast factors for fluorescent lamps only. The compilation of lamps, and other lamps which are omitted from the table, may be used to comply with the power budget limits of paragraph 3.4.3.2 (exception). It is recognized other fluorescent and high intensity discharge lamp types are not included in this table.

TABLE 3.4–2B.—MINIMUM ACCEPTABLE EFFICACY FOR INCANDESCENT LAMPS [1]

Lamp type	Initial lumens/watt
A and PS Lamps—General Service:	
500 watt	21
300 watt	21
200 watt	19
150 watt	19
100 watt	17
75 watt	15
A and PS Lamps—Extended Services:[2]	
500 watt	17
300 watt	16
200 watt	16
150 watt	15
100 watt	14
67 watt	14
R-Lamps:	
300 watt	12
150 watt	12
75 watt	11
Par-Lamps:	
300 watt	12
150 watt	11
100 watt	10
75 watt	10
Quartz (Tungsten-Halogen):	
1,000 watt	21
500 watt	21
300 watt	19
250 watt	19
150 watt	18
100 watt	18
900 watt (IRF)[3]	35
350 watt (IRF)[3]	28
150 watt (IRF)[3]	
Other Lamps Not Listed	18

[1] For unlisted wattages, a lamp is acceptable if it meets the value of the next highest wattage listed.
[2] Extended service lamps. Use of this lamp should be limited to difficult to maintain locations.
[3] Internal Reflecting Film (IRF).

3.4.4 Lighting Power Allowances and Limits.

3.4.4.1 The Facility Lighting Power Limit (FLPL) shall not exceed the sum of the Interior Lighting Power Limit (ILPL) for each building, plus the Exterior Lighting Power Allowance (ELPA) for each building plus the Roads and Grounds Lighting Power Allowances (RLPA).

FLPL = ILPL (all buildings) (from Equation 3.4.2) + ELPA (all buildings) (from Table 3.3–2) + RLPA (total) (from Table 3.3–1)

Equation 3.4–1

3.4.4.2 Trade-offs of interior lighting power limits among other buildings of the same facility shall not be allowed. Trade-offs between ILPL and ELPA or RLPA shall not be allowed. Trade-offs of

the ELPA among buildings of the same facility are allowed.

3.4.4.3 Interior lighting power calculations shall be based on the primary occupancy of each space within the building. The total connected load, including both permanently installed and moveable lighting, shall not exceed the Unit Lighting Power Allowance for the specified building occupancy as shown in Table 3.4–3 times the gross building area provided for that occupancy.

3.4.4.3.1 If multiple occupancies are intended, the lighting power for each type of occupancy shall be separately calculated and summed to obtain the ILPL. For each occupancy type, calculate the ULPA based on the sum of the total area for that occupancy.

$$ILPL=(ULPA_1\times A_1)+(ULPA_2\times A_2)+\ \ldots$$

Equation 3.4–2

Where:
ILPL = Interior Lighting Power Limit
ULPA = Unit Lighting Power Allowance
A_1 = Gross Building Area

3.4.4.4 When determining lighting power compliance, power for lights automatically controlled by daylight sensors, occupancy sensors, or lumen maintenance controls may be reduced by a power adjustment factor (PAF) determined in accordance with section 3.3.3.

TABLE 3.4–3.—UNIT LIGHTING POWER ALLOWANCE (ULPA)

Building type/space	First 1,000 square feet	Next 4,000 square feet	Next 10,000 square feet	Next 20,000 square feet	All above 35,000 square feet
Food Service:					
Fast Food/Cafeteria	1.5	1.4	1.3	1.3	1.3
Leisure Dining/Bar	2.2	2.0	1.6	1.4	1.4
Offices	2.0	1.9	1.8	1.7	1.6
Retail: [1]					
Type B & C [2]	3.5	3.2	2.6	2.4	2.2
Type D & E [3]	3.2	2.8	2.3	2.1	2.0
Mall Concourse at multi-store shopping centers	1.6	1.6	1.5	1.4	1.4
Garages and Basement	0.3	0.3	0.2	0.2	0.2
Schools:					
Pre/elementary	1.8	1.8	1.7	1.6	1.5
High School	2.0	2.0	2.0	1.9	1.8
Technical and/or Colleges	2.5	2.5	2.2	2.0	1.8
Warehouse/Storage	0.8	0.7	0.5	0.4	0.4
Factory and Workshop [4]	1.2	1.1	1.0	1.0	1.0

[1] Includes general, merchandising and display lighting.
[2] Type B & C Retail: Fine merchandising and mass merchandising.
[3] Type D & E Retail: General merchandising and food and miscellaneous merchandising.
[4] General Lighting.

3.5 Lighting—System Performance Compliance Alternative.

These System Performance lighting requirements, shall be used with section 3.3. Section 3.4 may be used instead of this subsection.

3.5.1 Purpose.

3.5.1.1 This subsection provides a procedure for determining the upper lighting power limits for buildings, roads and grounds. It also serves as a basis for calculating the lighting heat gain and energy usage of individual rooms, spaces and areas as well as the total building.

3.5.2 General.

3.5.2.1 The procedure used in this subsection is known as the Unit Power Density (UPD) procedure to establish the lighting power limit for building interiors plus the lighting power allowance for building exteriors and roads/grounds. Installed adjusted lighting power, including supplemental or task related lighting provided by movable fixtures shall comply with the power limits established in this subsection.

3.5.2.2 This is not a design procedure. Once the lighting power limit for a building, or a group of buildings in a facility, has been determined, the designer shall strive to design lighting systems that will provide an effective and pleasing visual environment in accordance with the use of the space, without exceeding the lighting power limit.

3.5.3 Procedure.

3.5.3.1 The Lighting Power Budget (LPB) of each interior space is determined as follows:

$$LPB=A\times P_b\times AF$$

Equation 3.5–1

Where:
LPB = Lighting power budget of the space, in watts
A = Area of the space, ft^2
P_b = Base UPD, W/ft^2, Table 3.5–1
AF = Area factor of the space. Figure 3.5–1

3.5.3.1.1 The Room Area (A) shall be calculated from the inside dimensions of the room.

3.5.3.1.2 The Base UPD (P_b) shall be selected from Table 3.5–1. For the period from 1987–1991, use the 1987 column; for the period after 1991, use the 1992 column. For applications to areas or activities other than those given, select values for similar areas or activities listed in Table 3.5–1.

3.5.3.1.3 The Area Factor (AF) shall be determined from Figure 3.5–1 based on the room area and ceiling height. Rooms of identical ceiling height and activities may be listed as a group in Form 3.5–1A. The AF of a group of rooms shall be determined from the average area of the rooms.

3.5.3.1.4 Special Spaces and Activities.

(a) For rooms serving multi-functions, such as hotel banquet/meeting rooms and office conference/presentation rooms, a supplementary lighting system with independent controls may be installed. The installed power for the supplementary system shall not be greater than 50% for the base LPB calculated in accordance with section 3.5.3.1.

(b) In rooms serving multiple simultaneous activities such as separate accounting and drafting areas within the same room, the LPB for the room shall be the weighted average of the activities in proportion to the size of the areas being served.

(c) Indoor sport activity area shall be considered as the area 10 ft. beyond the playing boundaries of the sport, but may not exceed the floor area of the space minus the spectator seating area.

3.5.3.2 The Interior Lighting Power Limit (ILPL) shall include a 0.20 W/ft^2 allowance for the unlisted areas. The ILPL shall be calculated as follows:

$$ILPL=LPB\times(\text{Listed Spaces})+0.2\ W/ft^2\times(\text{Unlisted Space})$$

Equation 3.5–2

Where:
ILPL = Interior Lighting Power Limit
Unlisted Space = (LBA—Area of Listed Spaces), ft^2
LBA = Lighting Building Area, ft^2

LPB = Lighting Power Budget

3.5.3.2.1 Trade-offs of Lighting Power Budgets among interior spaces are allowed as long as the total installed lighting power within the building does not exceed the Interior Lighting Power Limit.

3.5.3.2.2 Trade-offs of Lighting Power Budgets among other buildings of the same facility are not allowed.

3.5.3.3 Exterior Lighting Power Allowances (ELPA) shall be determined in accordance with Table 3.3–2.

3.5.3.4 Roads and Grounds lighting power allowances (RLPA) shall be determined in accordance with Table 3.3–1.

3.5.3.5 Trade-offs among ILPL and ELPA are not allowed.

3.5.3.6 Trade-offs of the ELPA among buildings of the same facility are allowed.

3.5.3.7 Use Form 3.5–1A to summarize the Interior Lighting Power Limits.

3.5.3.8 Use Form 3.5–1B to summarize the total exterior lighting power allowance.

3.5.3.9 Use Form 3.5–1C to summarize the maximum Roads/Grounds Lighting Power Allowance (RLPA) from Section 3.3.

3.5.3.10 Use Form 3.5–1D to summarize the maximum Facility Lighting Power Limit (FLPL). The FLPL shall be the sum of the ILPL and the ELPA of all buildings and the RLPA of the roads/grounds.

TABLE 3.5–1.—BASE UPD (PB) FOR AREA/ACTIVITY

Area/activity	1987		1992	
	Pb W/ft²	Note	Pb W/ft²	Note
COMMON ACTIVITY AREAS				
Auditorium	1.6	(d)	1.4	(d)
Corridor	0.9	(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 ft² and all open plan office 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 ft² or larger, w/medium height partitions 3.5 to 4.5 ft below ceiling		(h)		(h)
Reading, Typing and Filing	2.1	(a)	1.5	(a)
Drafting	3.1	(a)	2.6	(a)
Accounting	2.5	(a)	2.1	(a)
Open plan offices, 900 ft² or larger, w/partitions higher than 3.5 ft below ceiling		(h)		(h)
Reading, Typing and Filing	2.3	(a)	1.7	(a)
Drafting	3.5	(a)	3.0	(a)
Accounting	2.8	(a)	2.4	(a)
Common Activity Area:				
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	

TABLE 3.5-1.—BASE UPD (PB) FOR AREA/ACTIVITY—Continued

Area/activity	1987		1992	
	Pb W/ft²	Note	Pb W/ft²	Note
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	
SPECIFIC BUILDINGS				
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	

TABLE 3.5-1.—BASE UPD (PB) FOR AREA/ACTIVITY—Continued

Area/activity	1987		1992	
	Pb W/ft²	Note	Pb W/ft²	Note
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	6.0	(e)	6.0	(e)
Type B	3.5	(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)
Mall Concourse	1.4		0.6	
Retail Support Area:				
Tailoring	2.1		2.1	
Dressing/Fitting Rooms	1.4		1.1	
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	
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	

(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—Definition 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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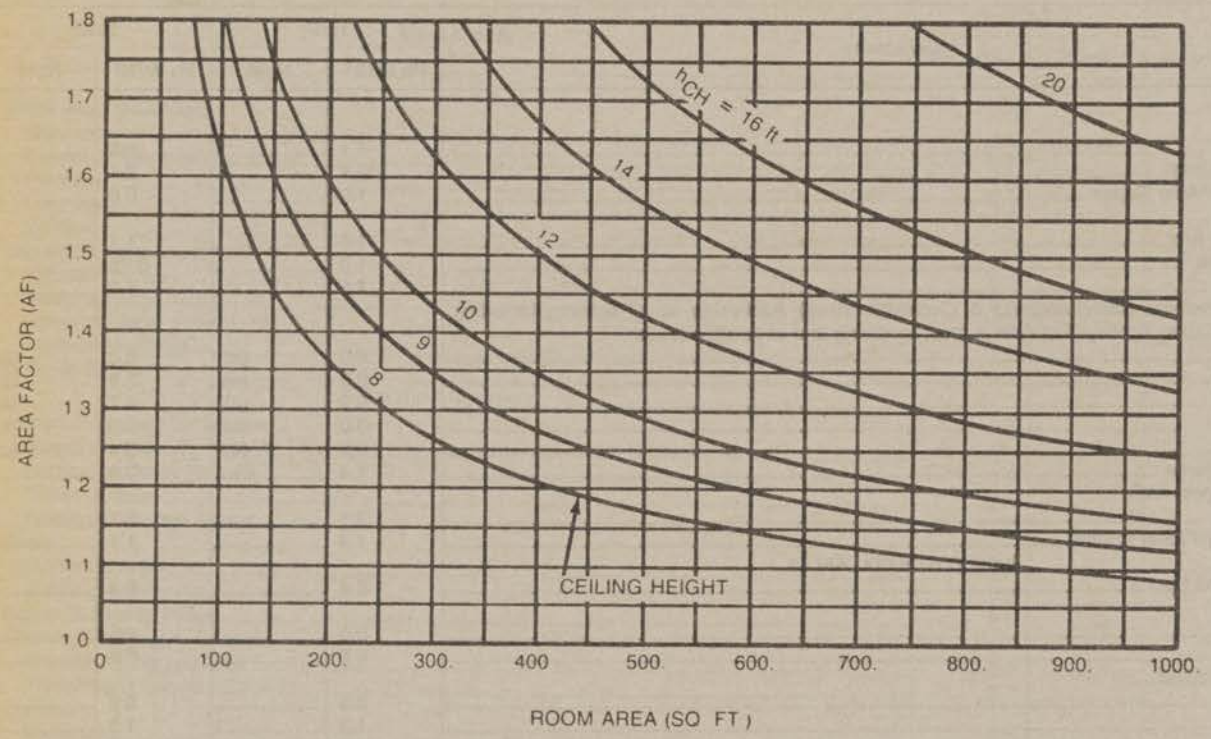
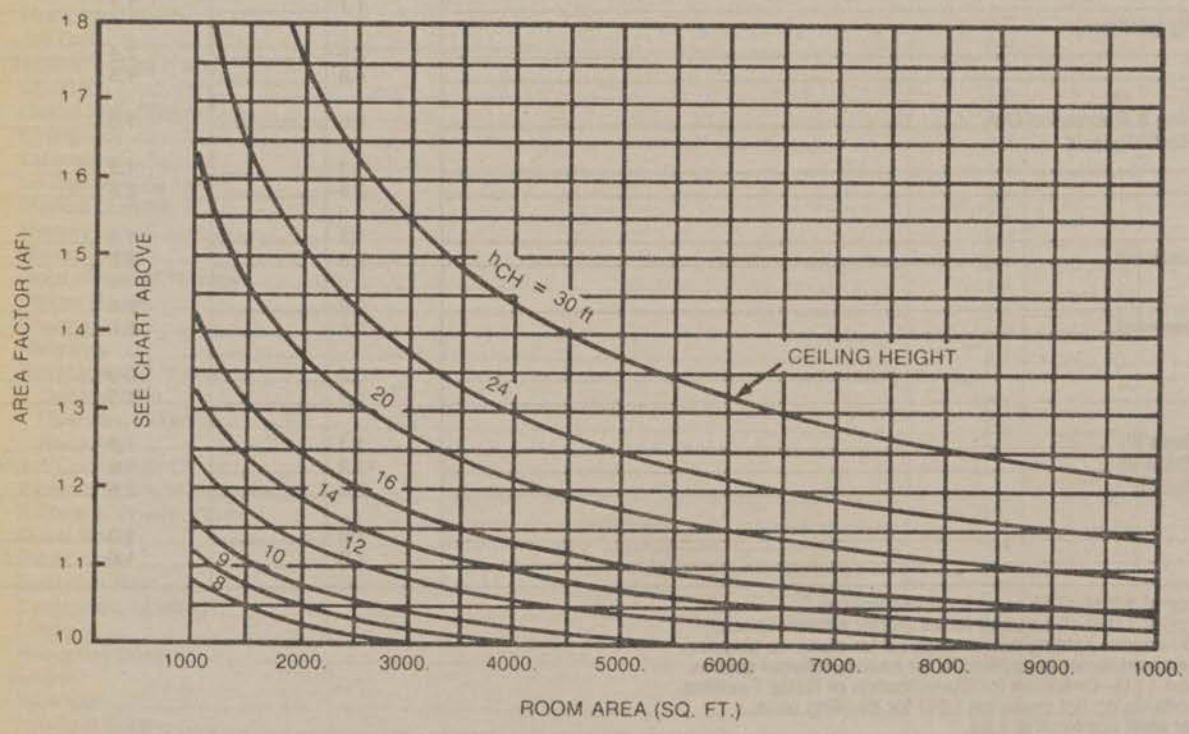
Figure 3.5–1.—Base Unit Power Density Area Factor





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Form 3.5–1A.—Interior Lighting Power Unit Determination

PROJECT			
BY		DATE	

Group spaces of same activity & ceiling height together. Draw a solid line to separate each group.

①	②	③								④	⑤	⑥	⑦	⑧=2x4x7	⑨
TYPE OF SPACE (AREA/ACTIVITY)	P_b(W/ft^2)	LISTED SPACES								TOTAL AREA OF SPACE (ft^2)	AREA OF AVERAGE SPACE (ft^2)	CEILING HEIGHT (ft)	AF	TOTAL POWER BUDGET (W)	NOTES
		ROOM NO.	AREA (ft^2)	ROOM NO.	AREA (ft^2)	ROOM NO.	AREA (ft^2)	ROOM NO.	AREA (ft^2)						

A	LPB OF LISTED SPACES	(LS)			A
B					B
C	LPB OF UNLISTED SPACE (ULS = LBA - LS): 0.2w/ft^2	(ULS)			C
D	INTERIOR LIGHTING POWER LIMIT (ILPL): A + C	(LBA)			D
E	AVERAGE UPD OF BUILDING INTERIOR: D ÷ LBA	(W/ft^2)			E

Form 3.5–1B.—Exterior Lighting Power Allowance

PROJECT			
BY		DATE	

EXTERIOR ELEMENTS	QUANTITY AND DESCRIPTION		POWER ALLOWANCE (WATTS)			NOTES
	QUANTITY	DESCRIPTION	BUILDING ( )	BUILDING ( )	BUILDING ( )	
EXITS						
ENTRANCES						
ENTRANCES						
CANOPIES						
CANOPIES						
LOADING						
LOADING						
		SUB TOTAL				
		TOTAL OF ALL BUILDINGS (FACILITY)				

Use additional sheets for more than 3 buildings in a facility

Form 3.5–1C.—Roads/Grounds Lighting Power Allowance

ROADS/GROUNDS ELEMENTS	QUANTITY AND DESCRIPTION		POWER ALLOWANCE (WATTS)	NOTES
	QUANTITY	DESCRIPTION		
STORAGE/WORK AREA				
OTHER GROUND AREAS				
PRIVATE DRIVEWAYS				
PUBLIC DRIVEWAYS				
PRIVATE PARKING LOTS				
PUBLIC PARKING LOTS				
OPEN AIR COVERED AREAS				
		TOTAL OF ROADS/GROUNDS		

Use expanded form and supplemental sheets to document the requirements as necessary

Form 3.5–1D.—Facility Lighting Power Limit

SUMMARY	POWER (WATTS)
INTERIOR LIGHTING POWER LIMIT	
EXTERIOR LIGHTING POWER ALLOWANCE	
ROAD/GROUND POWER ALLOWANCE	
FACILITY LIGHTING POWER LIMIT	

NOTES _____

§ 435.104 Auxiliary systems and equipment.

4.1 General.

Auxiliary systems and equipment vary substantially among buildings. As a consequence, there are few "shall" requirements in this section.

4.2 Principles of Design.

Consideration shall be given to the use of waste heat, heat 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 Heat recovery shall be used when coincident thermal and refrigeration loads of similar magnitude exist.

§ 435.105 Building envelope.

5.1 General.

5.1.1 This section sets criteria for the energy conscious design of the building envelope. It provides compliance paths that allow flexibility by inclusion of a number of factors important in thermal envelope design for a range of building functions and climates.

5.1.2 This section contains minimum requirements for the design of the building envelope.

5.1.3 The requirements of this section are to be used for determining compliance with these standards. They are not intended to replace the building loads calculation procedures in the *ASHRAE Handbook, 1985 Fundamentals Volume.*

5.1.4 Information on thermal properties, performance of building envelope sections and components, and heat transfer shall be obtained laboratory or field test measurements conducted in accordance with *ASTM Standard C-177-76,* "Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Guarded Hot Plate," *ASTM Standard C-518-76,* "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 Standard C-976-82, "Thermal Performance of Building Assemblies By Means of a Calibrated Hot Box." Where information is not available from these sources, then such information may be obtained for the *ASHRAE Handbook, 1985 Fundamentals Volume.*

5.1.5 In this section, daylighting credit for reduced energy use resulting from the use of automatic lighting control devices in conjunction with fenestration applies only to the space heating and cooling loads. 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.

5.2 Principles of Design.

5.2.1 Building Loads.

5.2.1.1 Building loads result from sources external and internal to the building.

5.2.1.1.1 External loads, from outdoor temperature, humidity, wind and insolation, fluctuate daily and seasonally.

5.2.1.1.2 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.

5.2.1.2 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).

5.2.1.3 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.

5.2.1.4 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.

5.2.1.5 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, such as operable solar shading devices, and the integration of glazing systems with the HVAC distribution system.

5.2.1.6 Control and External Loads.

5.2.1.6.1 Balance Point Temperature.

(a) Defined as the average outdoor temperature at which the building requires neither heating nor cooling, balance point temperature has traditionally been based on the assumption that, on a long-term average, solar and internal gains will offset heat loss in small buildings and perimeter zones when the mean daily outdoor temperature is 65F° or higher and that fuel consumption will be proportional to the difference between mean daily temperature and 65F°. Methods for estimating heating energy are better established than those for cooling. This is because cooling loads strongly depend on several factors, including solar loads, latent loads, outdoor temperature and internal loads, rather than on a single major factor found in heating. In addition, solar load is highly dependent on many building features, such as amount and orientation of glass, window treatment, external shading, wall and roof color, all of which may vary widely depending on the building.

(b) The traditional use of 65F°-based degree-days is founded on correlations between energy and degree-days made in the 1930's. Since then, incidental gains from internal heat sources have increased substantially and conductances have decreased with increased use of insulation. Both these trends decrease the balance point temperature and calculations made with 65F°-based degree-days overpredict energy loads on most modern buildings. Therefore, it is important to use one of the many, commonly-used variable degree-day methods of calculating the building's balance point temperature.

5.2.1.6.2 Control of Conduction.

(a) Controlled conductivity may be considered through the careful use of sensible (mass) or phase-change storage and movable insulation. If such techniques are not considered practical

in a particular situation, then conductivity shall be fixed at a level that minimizes net heat gains and losses 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.

5.2.1.6.3 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.

5.2.1.6.4 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 5F° of room temperature in the coldest anticipated weather (i.e., winter design conditions), and the *coldest* inside surface will remain within 25F° 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 daylight.

(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 shall be calculated as follows:

$$U_o = (U_1A_1 + U_2A_2 + \ldots + U_nA_n)/A_o$$

Equation 5.3–1

Where:

U_o = the average thermal transmittance of the gross area of the building envelope, e.g., the exterior wall assembly including fenestration and doors, roofs, skylights, and/or ceilings, and floors, Btu/h·ft²·F°.

A_o = the gross area of the building envelope, ft².

U_i = the thermal transmittance of each individual element of the building envelope (see Section 5.3.2), $U_i = 1/R_i$ (the total resistance of the envelope assembly). Btu/h·ft²·F°, i = 1 . . . n

A_i = the area of each individual element of the building envelope, ft², i = 1 . . . n

5.3.2 Thermal Transmittance (U_i) of an Envelope Assembly

5.3.2.1 The thermal transmittance of each envelope assembly shall be determined with due consideration of all series and parallel heat flow paths through the elements of the assembly. Compression of insulation shall be considered in determining the thermal resistance.

5.3.2.2 The thermal transmittance of opaque elements of assemblies shall be determined using a series path procedure with correction for the presence of parallel paths within an element of the envelope assembly, such as insulation and studs in a wall cavity. Figure 5.3–1 and Table 5.3–1 provide guidance on the procedure to be used in subsections 5.3.2.2.1 and 5.3.2.2.2.

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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

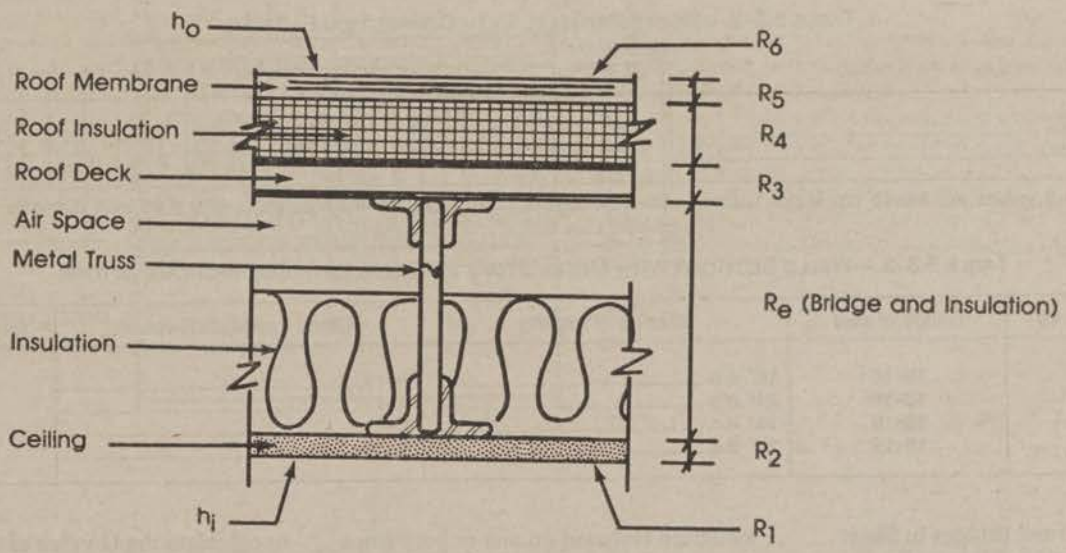

TABLE 5.3-1
CALCULATION PROCEDURES FOR EVALUATING ALL SERIES AND PARALLEL PATH HEAT FLOW PATHS

		BRIDGE	
		METAL	NON-METAL
ATTACHMENT	METAL	Thermal Bridges in Sheet Metal Construction Method	Parallel Path
	NON-METAL	Zone Method	Parallel Path

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5.3.2.2.1 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. One of the procedures specified in section 5.1.4 of these standards shall be used.

(b) The thermal resistance of those roof and wall assemblies listed in Tables 5.3–2 and 5.3–3 shall be corrected using the following procedures:

(1) Considering the total resistance of the series path:

$$R_t = R_i + R_e + \ldots + R_n$$

Equation 5.3–2

Where:

$R = 1/U$

R_t = the total resistance of the envelope assembly

R_i for i = 1 to n is the resistance of the series elements.

R_e is the equivalent resistance of the element containing the parallel path, the value of R_e is:

R_e = (R-value of insulation) × F_c

TABLE 5.3–2.—ROOFS 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 on: Metal Trusses with 4 ft. spacing that penetrate the insulation, and 0.66 inch diameter cross-members every 1 ft.

TABLE 5.3–3.—WALLS SECTIONS WITH METAL STOPS PARALLEL PATH CORRECTION FACTORS

Size of members	Gauge of stud	Spacing of framing	Cavity insulation R-value	Correction factor
2×4	18–16	16" o.c.	R-11	0.50
2×4	18–16	24" o.c.	R-11	0.60
2×6	18–16	16" o.c.	R-19	0.40
2×6	18–16	24" o.c.	R-19	0.45

(c) For "Thermal Bridges in Sheet Metal Construction," internally insulated with an internal metal structure fastened on one or both sides to a metal skin or covering (see Figure 5.3–2), use the following series of steps to calculate the U-value of the envelope construction.

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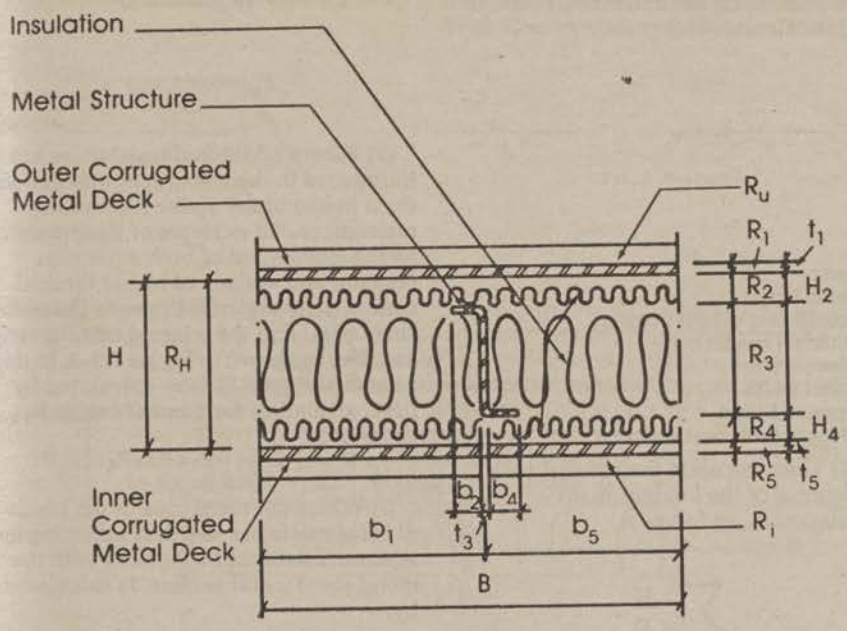
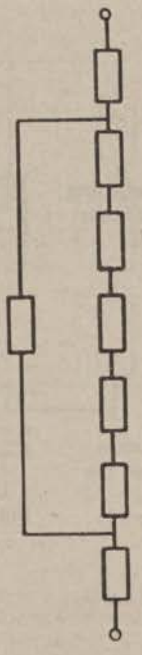
Figure 5.3-2.—A Generalized Built-Up Sheet Metal Construction and Corresponding Resistance Network





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(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:

$$R_1 = \frac{1}{2 \cdot L \sqrt{h_1 k_1 T_1}} - \frac{1}{B \cdot L \cdot h_1}$$

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:

$$R_2 = \frac{1}{k \cdot L \left(\frac{b_2}{H_2} + \frac{2}{\pi} \right)}$$

Equation 5.3-5

(iii) And, the resistance of the structural member (R_3) is calculated by:

$$R_3 = \frac{h_3}{L \cdot t_3 \cdot k_3}$$

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:

$$R_4 = \frac{1}{k \cdot L \left(\frac{b_4}{H_4} + \frac{2}{\pi} \right)}$$

Equation 5.3-7

(v) And finally, the effective mean flow path along the inner metal surface (R_5) is calculated by:

$$R_5 = \frac{1}{2 \cdot L \sqrt{h_5 k_5 T_5}} - \frac{1}{B \cdot L \cdot h_5}$$

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:

$$R_H = \frac{\sum \frac{H}{K}}{B \cdot L}$$

Equation 5.3-9

(3) Then obtain the overall construction resistance R_C by combining R_H and R_{TB} as two parallel resistances:

$$R_C = \frac{R_{TB} \cdot R_H}{R_{TB} + R_H}$$

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:

$$m_{TOT}=R_{TOT} \cdot B \cdot L$$

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 sheetmetal 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:

$$R_{2TB}=R_7+R_8+R_9$$

Equation 5.3-14

(i) Where the resistance of the heads of N fasteners per length L, adjusting for surface resistance in common with the metal sheet metal surface, is calculated by:

$$R_7 = \frac{1}{N \cdot 2 \cdot \pi \cdot \lambda_1 \cdot t_1 \cdot f(\beta r_1, \infty)} - \frac{1}{a_1 \cdot B \cdot L}$$

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 5.3-1.

$$\beta = \sqrt{\frac{h}{\lambda \cdot t}}$$

r_1 = the radius of the fastener shank.
r_2 = the outer radius of the fastener head.

(ii) And, the resistance of the shank of the fastener is calculated by:

$$R_8 = \frac{h_8}{N \cdot \lambda \cdot \pi \cdot r_1^2}$$

Equation 5.3-16

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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

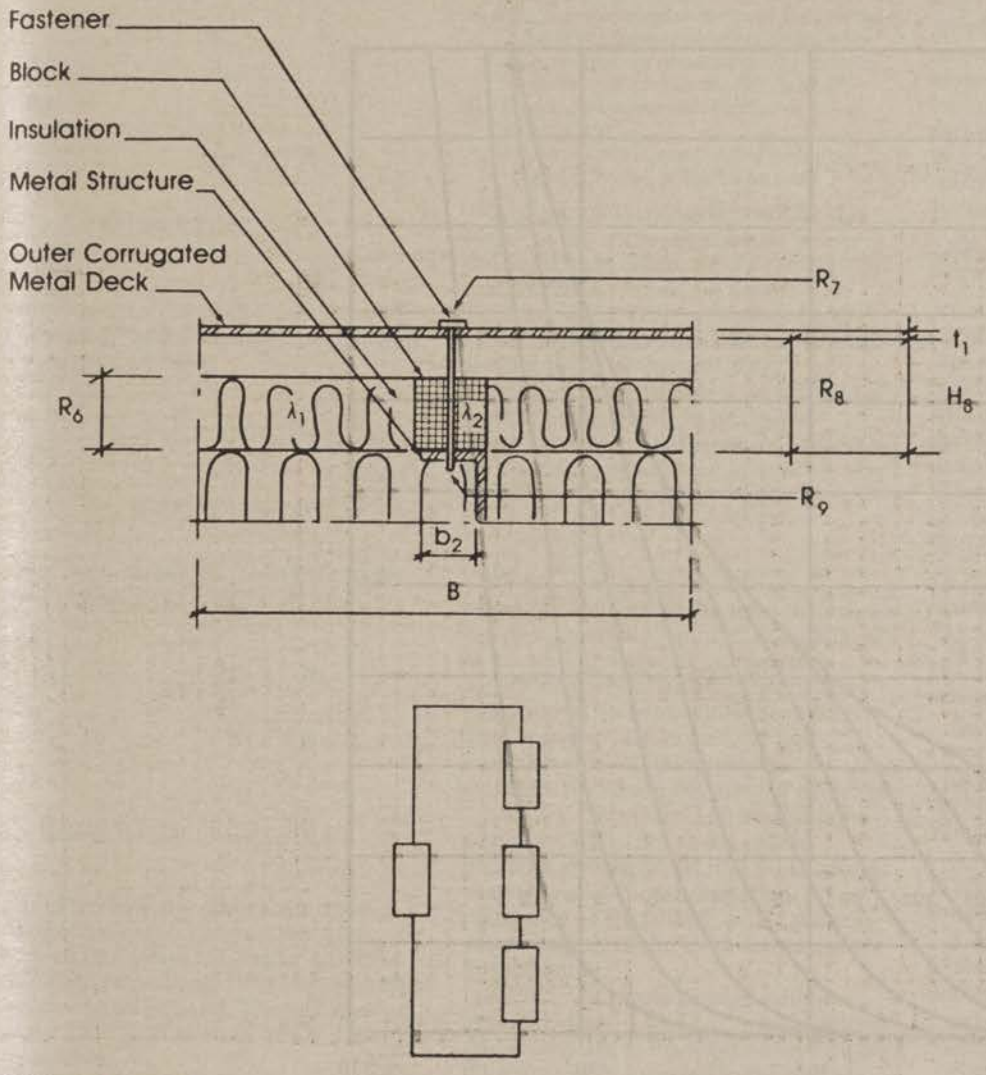

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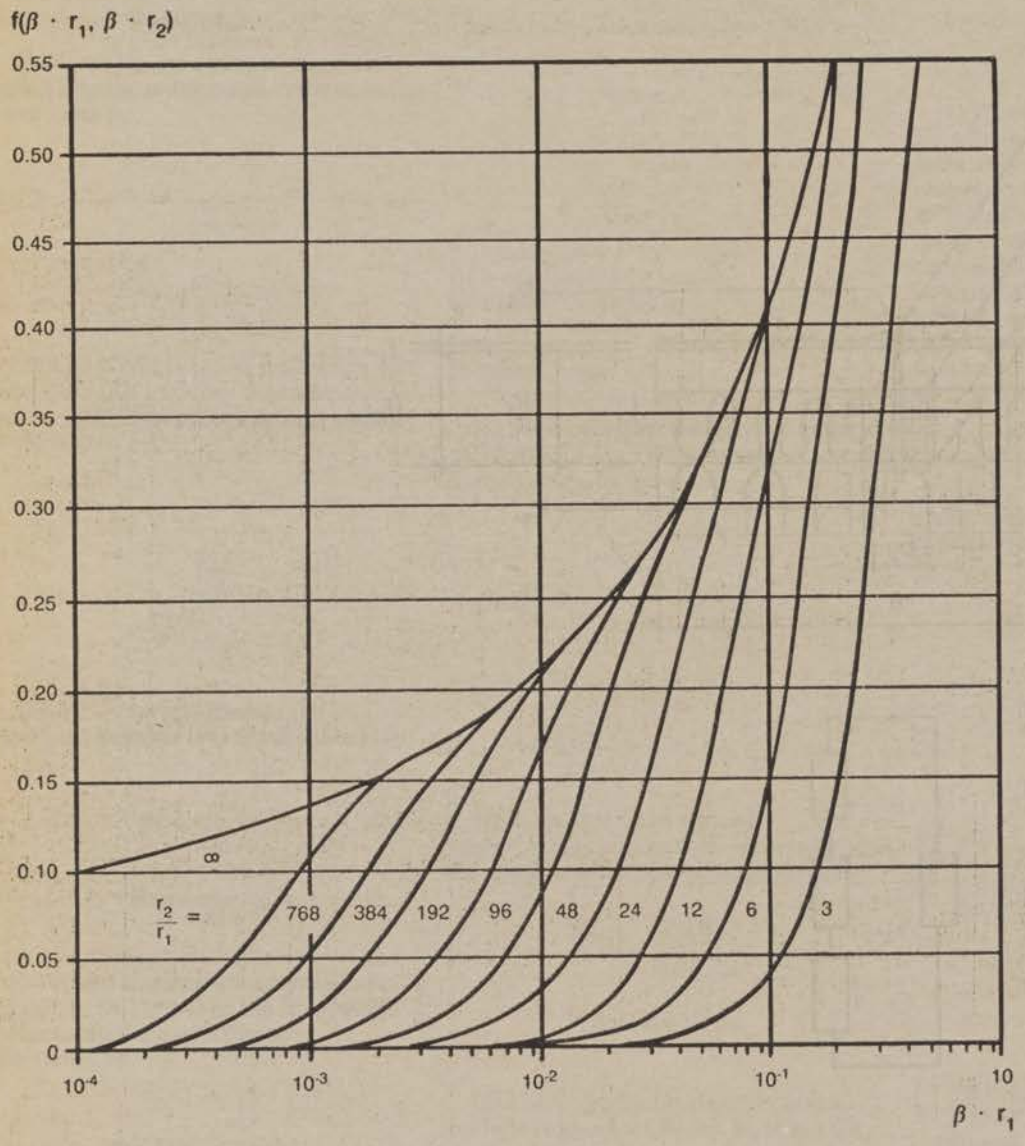
Figure 5.3–4.—The Function (f) Given as a Function of β r and for Different Values of the Ratio, r_2/r_1



BILLING CODE 6450-01-C

(iii) And, finally, the resistance of the connection to the internal structural member is calculated by:

$$R_9 = \frac{l_n \quad \frac{b_2}{r_1}}{N \cdot 2\pi\lambda \cdot t}$$

Equation 5.3-17

(iv) Then calculate the resistance of the block of higher thermal conductivity material as follows:

$$R_6 = \frac{1}{L_1\left(\lambda_1 \frac{b}{H_6} + \lambda_2 \frac{2}{\pi}\right)}$$

Equation 5.3-18

(v) Then obtain the resistance to be used in lieu of the original R_2 by:

$$R_2 = \frac{R_{TB} \cdot R_6}{R_{TB} + R_6}$$

Equation 5.3-19

(d) For elements other than those covered in item (c) above, the zone method described in Chapter 23 of the *ASHRAE Handbook, 1985 Fundamentals Volume* shall be used. The formulas on pages 23.13 & 23.14 shall be used for calculation.

5.3.2.2.2 For envelope assemblies containing Non-Metal Framing, the U_f shall be determined from results from one of the laboratory or field test measurements specified in Section 5.1.4 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.

5.3.2.3 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, the Equation 5.3–1 shall be used, otherwise the thermal transmittance of fenestration assemblies shall be calculated as follows:

$$U_{of} = (U_{g,1} \cdot F_{e,1} \cdot A_1 + U_{g,2} \cdot F_{f,2} \cdot A_2 + \cdots + U_{g,n} \cdot F_{f,n} \cdot A_n) / A_{of}$$

Equation 5.3–20

Where:

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 = framing adjustment factor for sash, frames, etc.

A_{of} = the area of all fenestration including glazed portions, sash, frames, etc.

5.3.2.3.1 Values for U_g shall be the larger of the winter or summer values obtained from Figure 14 of Chapter 27 of the *ASHRAE Handbook, 1985 Fundamentals Volume*. Values for F_f shall be obtained from Table 13, Part C, in Chapter 27 of the *ASHRAE Handbook, 1985 Fundamentals Volume*. Values for U_g and F_f may also be obtained from manufacturer's test data for specific product assemblies.

5.3.3 Gross Area of Envelope Components.

5.3.3.1 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.

5.3.3.1.1 For thermal transmittance purposes, when return air ceiling plenums are employed, the roof/ceiling assembly shall not include the resistance of the ceiling, or the plenum space, as part of the total resistance of the assembly.

5.3.3.2 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.

5.3.3.3 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.

5.3.4 Shading Coefficients.

5.3.4.1 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 systems 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.*

5.3.5 Air Leakage and Moisture Migration.

5.3.5.1 The requirements of this section 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."*

5.3.5.2 Air Leakage Requirements for Fenestration and Doors.

5.3.5.2.1 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)."

5.3.5.2.2 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."

5.3.5.2.3 Commercial entrance swinging or revolving doors shall limit air leakage to a rate not to exceed 1.25 cfm per square foot of door area, at standard test conditions.

5.3.5.2.4 Residential swinging doors shall limit air leakage to a rate not to exceed 0.5 cfm per square foot of door area, at standard test conditions.

5.3.5.2.5 Spaces that have regular high volume traffic through the building envelope, such as retail store entrances and loading bays, shall be designed with consideration of the steady state air transfer between conditioned and unconditioned or exterior space.

5.3.5.2.6 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 should be considered.

5.3.5.3 *Air Leakage Requirements for Exterior Envelope Joints and Penetrations.*

5.3.5.3.1 Exterior joints 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, shall be caulked, gasketed, weather stripped, or otherwise sealed.

5.3.5.4 *Moisture Migration Requirements for Exterior Envelopes.*

5.3.5.4.1 The building envelope shall be designed to prevent deterioration in insulation performance and from moisture migration.

5.3.5.4.2 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."

5.3.6 Shell Buildings.

5.3.6.1 If determination of building envelope compliance occurs prior to the determination of lighting power density, equipment power density, or fenestration shading device characteristics, the following conditions shall be assumed when determining building envelope compliance by either the prescriptive method of section 5.4 or the system performance method of section 5.5.

5.3.6.2 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.—SHELL BUILDINGS LIGHTING AND EQUIPMENT POWER DENSITIES

Area (ACP cases)	Watts per square foot		
	HDD≤3000	3000<HDD65≤6000	HDD>6000
Perimeter Area w/ Daylighting Sensor Controls	2.00	1.75	1.50
All Other	3.00	2.25	1.50

5.3.6.3 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.

5.3.6.3 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.

5.3.7 Buildings located in climates with greater than 10,000 HDD base 65F°.

5.3.7.1 For locations with a heating degree-day base (HDD) 65F° greater than 10,000, the envelope criteria listed in Table 5.3–5 shall apply.

TABLE 5.3–5.—ENVELOPE THERMAL TRANSMITTANCE AND RESISTANCE REQUIREMENTS FOR LOCATIONS WITH HDD BASE 65F° Greater Than 10,000 [1]

Building component	Inches	Minimum U_o value	Minimum R-value	
			Unheated slab and wall	Heated slab
U_o Opaque Wall		0.104		
U_o Fenestration		0.45		
U_o Roof		0.03		
Floor Over Unconditioned Spaces		0.04		
Exterior wall insulation below grade			12	
Floor insulation for unheated slab on grade				
Horizontal below slab insulation extending in from edge of slab	24		18	20
	36		15	17
	48		11	13
Vertical insulation (down footing) extending down from top of slab	24		8	10
	36		6	8
	38		4	6

[1] Window Wall Ratio (WWR) ≤0.30.

5.4 Building Envelope—Prescriptive Compliance Alternative.

5.4.1 Scope.

5.4.1.1 The Minimum Requirements of section 5.3 shall be used with this section. The System Performance Criteria in section 5.5 may be used instead of this section. For buildings with high internal heat gains, unusual operating schedules, or that supply innovative design strategies, consideration shall be given to using the provisions of section 11.0 or 12.0.

5.4.1.2 This section provides compliance requirements for new buildings, including those 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.

5.4.1.3 Portions of external envelopes enclosing atria are not covered by the envelope criteria of this section if the atria are unconditioned and are thermally isolated from conditioned spaces.

5.4.1.4 An example of how the ACP Tables are used to determine compliance is provided in Appendix C.

5.4.1.4.1 The envelope criteria in section 5.4 and 5.5 have been developed using weather data of varying degree-day bases. It should be noted that the choice of those bases for analysis was made because they provide reliable boundary parameters for the envelope criteria and not because they represent appropriate balance point temperatures for buildings. (See section 5.2.1.6.1 for more information on balance point temperatures.)

5.4.2 General.

5.4.2.1 The Alternate Component Packages (ACP) provide design criteria for the use of the following types of design options:

5.4.2.1.1 "Base Case"—buildings with envelopes designed without perimeter daylighting or high performance glass.

5.4.2.1.2 "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 in those climates that do not usually require space cooling by means of mechanical refrigeration.

(a) This 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 recently introduced high performance glazings in combination with automatic lighting controls.

5.4.2.1.3 "High Performance Glass"—in colder climate locations, buildings with envelopes designed to use additional fenestration area by incorporating the decreased thermal transmittances of high performance glazings.

5.4.2.1.4 "Wall Thermal Mass Buildings"—buildings with envelopes designed to use additional fenestration area by incorporating wall thermal mass.

5.4.2.2 If additional compliance flexibility is desired, the System Performance Criteria, section 5.5 of these standards, may be used.

5.4.3 Compliance.

5.4.3.1 The envelope design of the building being evaluated is in compliance with the prescriptive criteria of this section provided that:

5.4.3.1.1 The minimum requirements of section 5.3 are met.

5.4.3.1.2 All envelope thermal transmittance (U) values are less than or equal to those chosen from the ACP Table selected and the corresponding values specified in Table 5.4–2 and 5.4–34.

5.4.3.1.3 All envelope thermal resistance (R) values are greater than those listed for insulation in combination with walls below grade and for slab-on-grade floors, as specified in Table 5.4–2.

5.4.3.1.4 The percentage of fenestration of the combined gross wall area is less than or equal to the value permitted in the selected ACP Table.

5.4.4 Procedure for Using the Alternate Component Packages (ACP).

5.4.4.1 The prescriptive envelope criteria for each of 30 climate ranges are contained in Table 5.4–2 and Tables 5.4–4 through 5.4–33. Table 5.4–2 contains, for each of the 30 climate ranges, the required overall thermal transmittances and thermal resistances of building components, including roofs (Max. U_o), floors over unconditioned spaces (Max. U_o), exterior wall insulation below grade (Min. R), and floor insulation for slabs-on-grade (Min. R).

5.4.4.2 Tables 5.4–4 through 5.4–33 contain procedures to determine the maximum allowable fenestration for a building design based on the building design's projected internal load, shading coefficient of the fenestration (SC), the projection factor of fixed, horizontal external shading devices (PF), the thermal transmittance of the fenestration assembly (U_{of}), the overall thermal transmittance of the walls (U_{ow}), the envelope's heat capacity (HC), whether or not the design employs daylight-activated automatic lighting controls for perimeter daylighting, and finally, whether or not the design employs glazings with visible transmittances (VT) equal to the shading coefficient.

5.4.4.3 The following steps shall be used to determine compliance with these prescriptive envelope criteria.

5.4.4.3.1 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 grouping 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/ft²/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 ACF Table.

(b) From the list of cities in Appendix A, 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." in Appendix A contains the table number of the appropriate ACP Table.

5.4.4.3.2 Determination of Roof and Foundation Compliance.

(a) The criteria for roofs, walls adjacent to unconditioned space, and floors over unconditioned space, shall not be exceeded and criteria for exterior wall insulation below grade and floor insulation for slab-on-grade floors shall be met or exceeded, for any ACP selected, the values specified in Table 5.4–2. For skylights, the allowance procedure presented in section 5.5.2.2 shall be used.

5.4.4.3.3 Determination of Opaque Wall Assembly and Fenestration Compliance.

(a) The ACP Tables provide an easy method of determining prescriptive wall and fenestration compliance with the standards. To use the ACP Table, the following proposed design variables must be available:

(1) The proposed Internal Load, including the Lighting Power Limit and Equipment Power Limit.

(i) The Lighting Power Limit shall be either:

(A) The average Unit Power Density of the building in W/ft² as specified in section 3.3 (for dwelling units the limit is 0.0 W/ft²); or

(B) The designed average Unit Power Density for the perimeter areas within 15 feet of each exterior wall based on the procedures specified in section 3.5.

(C) Occupancy loads of 0.6 W/ft² are assumed. If the occupancy loads of the building design are substantially different from this value, the difference between 0.6 W/ft² and the occupancy load may be included in the overall load used.

TABLE 5.4–1.—SELECTION OF ACP TABLES

HDD 50	CDD 65	VSEW	CDH80	ACP Table No.
0	3001–4500	>800		5.4–4
0	>4500	>845		5.4–5
1–1000	0–1150	560–845		5.4–6
1–1000	0–300	>845		5.4–7
1–1000	301–1150	>845		5.4–8
1–1000	1151–2000	560–845		5.4–9
1–1000	1151–2000	>845		5.4–10
1–1000	2001–3250	560–845		5.4–11
1–1000	2001–3250	>845	0–18000	5.4–12
1–1000	2001–3250	>845	>18000	5.4–13
1–1000	3251–4500	>845	0–18000	5.4–14
1–1000	3251–4500	>845	>18000	5.4–15
1001–1750	0–500	560–845		5.4–16
1001–1750	501–1150	560–845		5.4–17
1001–1750	1–1150	>845		5.4–18
1001–1750	1151–2000	560–845		5.4–19
1001–1750	1151–2000	>845		5.4–20
1001–1750	2001–3250	560–845		5.4–21
1751–2600	0–1150	560–845		5.4–22
2601–3200	0–1150	560–845		5.4–23
1751–3200	0–1150	>845		5.4–24
1751–3200	1151–2000	560–845		5.4–25
1751–3200	1151–2000	>845		5.4–26
3201–4000	0–1150	560–845		5.4–27
4001–5000	0–1150	560–845		5.4–28
3201–4000	0–1150	>845		5.1–29
4001–5000	0–1150	>845		5.4–30
5001–6500	0–1150	560–845		5.4–31
1–6500	<100	<560		5.4–32
>6500	<100	<560		5.1–33

(ii) The Equipment Power Limit shall be either:

(A) The average receptacle power density selected from Table 5.4-3 for the building type, plus occupant load in W/ft²; or

(B) The actual average receptacle power density and occupants in W/ft² within 15 feet of each exterior wall.

(2) The Shading Coefficient of the fenestration (SC_x) including internal, integral and external shading devices, but excluding the effect of external shading projections (PF).

(3) The thermal transmittance value (U_{of}) of the fenestration assembly. For some fenestration options, the visible transmittance of the fenestration (VT) shall not be less than the shading coefficient of the glazed portion of the fenestration assembly, not considering any shading devices.

(4) The external shading projection factor (Proj. Factor). If no fixed, horizontal external shading projections are used in the proposed design, the column designated Proj. Factor=0.0 is used. If fixed, horizontal external shading projections are used, select the appropriate column, using Equation 5.4-1.

$$PF = Pd/H$$

Equation 5.4-1

Where:

PF=External Shading Projection Factor

Pd=External Shading Projection Depth, inches or feet

H=Height of fenestration portion, in units consistent with Pd

(5) The overall thermal transmittance and the heat capacity of the opaque wall assembly as determined in section 5.1 and section 5.3.

(6) The determination whether or not automatic lighting controls are used for perimeter daylighting as specified in section 3.0.

(b) Enter the ACP Table at the appropriate Internal Load Range, labeled #1.

TABLE 5.4-2.—REQUIRED OVERALL THERMAL TRANSMITTANCES (U_o) AND THERMAL RESISTANCES (R) OF BUILDING COMPONENTS WHEN USING ALTERNATE COMPONENT PACKAGES IN TABLES 5.4-4 THROUGH 5.4-33

ACP table No.	Roof Max U_o	Wall (adjacent to uncond. space) Max U_o	Floor (over uncond. space) Max U_o	Exterior wall insula. below grade Min. R	Floor insulation for slab on grade (minimum R)											
					Unheated slab						Heated slab					
					Horizontal below slab-distance in from edge (in.)			Vertical (down) distance down from top of slab (in.)			Horizontal below slab distance in from edge (in.)			Vertical (down) distance down from top of slab (in.)		
					24	36	48	24	36	48	24	36	48	24	36	48
5.4-4	0.092	1.00	0.20													
5.4-5	.061	1.00	.20													
5.4-6	.071	.16	.065	8	15	12	10	7	5	4	17	14	12	9	7	6
5.4-7	.094	.24	.11	7												
5.4-8	.11	.41	.19													
5.4-9	.073	.24	.11	7												
5.4-10	.065	.24	.11	7												
5.4-11	.071	.31	.14	6												
5.4-12	.065	.32	.15													
5.4-13	.053	.30	.14	6												
5.4-14	.071	.99	.20													
5.4-15	.048	.57	.20													
5.4-16	.067	.16	.06	8	15	13	10	7	6	4	17	15	12	9	8	6
5.4-17	.066	.17	.07	8	14	12	9	7	5	4	16	14	11	9	7	6
5.4-18	.059	.17	.068	8	14	12	9	7	5	4	16	14	11	9	7	6
5.4-19	.067	.19	.082	7	12	10	8	6	5	4	14	12	10	8	7	6
5.4-20	.061	.19	.079	7	12	10	8	6	5	4	14	12	10	8	7	6
5.4-21	.06	.21	.089	7	11	9	8	6	5	4	13	11	10	8	7	6
5.4-22	.06	.16	.06	8	15	13	10	7	6	4	17	15	12	9	8	6
5.4-23	.056	.14	.051	9	16	13	10	7	6	4	18	15	12	9	8	6
5.4-24	.056	.15	.054	9	16	13	10	7	6	4	18	15	12	9	8	6
5.4-25	.059	.16	.065	8	15	12	10	7	5	4	17	14	12	9	7	6
5.4-26	.054	.15	.058	9	15	13	10	7	6	4	17	15	12	9	8	6
5.4-27	.052	.13	.045	10	17	14	11	8	6	4	19	16	13	10	8	6
5.4-28	.048	.12	.04	11	18	15	11	8	6	4	20	17	13	10	8	6
5.4-29	.051	.13	.044	10	17	14	11	8	6	4	19	16	13	10	8	6
5.4-30	.047	.12	.04	11	18	15	11	8	6	4	20	17	13	10	8	6
5.4-31	.043	.11	.04	12	18	15	11	8	6	4	20	17	13	10	8	6
5.4-32	.046	.11	.04	11	18	15	11	8	6	4	20	17	13	10	8	6
5.4-33	.033	.095	.04	15	18	15	11	8	6	4	20	17	13	10	8	6

(c) Proceed horizontally to the column labeled #2, Shading Coefficient Range, and select the appropriate row that corresponds to the proposed design's Shading Coefficient. Draw a horizontal line across the row selected.

(d) Moving from left to right across the drawn line to the Maximum Percent Fenestration values, labeled #3, circle the Maximum Percent Fenestration values that are equal to or greater than the percent fenestration selected for the proposed design. If one or more values are circled, they represent the possible compliance paths; proceed to the next step. If no values are circled, the proposed design does not comply.

(e) At the first circled Maximum Percent Fenestration value, proceed downward to boxes labeled #4, Projection Factor. If the Projection Factor for the proposed design is equal to or greater than the value shown, proceed to the next step. If the Projection Factor is not equal to or greater than the value shown, the design does not comply with this path; return to the next circled Maximum Percent Fenestration value and repeat this step. Continue this action until compliance is determined. If no other values are circled, the proposed design does not comply.

TABLE 5.4-3.—AVERAGE RECEPTACLE POWER DENSITIES

Building type	Watts/ft²
Assembly	0.25
Office	0.75
Retail	0.25
Warehouse	0.10
School	0.50
Hotel/Motel	0.25
Restaurant	0.10
Health	1.00
Multi-family	0.75

(f) Proceed downward to the box labeled #5, U_{of}. This box represents the Maximum Overall Thermal Transmittance of the Fenestration Assembly. If the U_{of} for the proposed

design falls within the given range, proceed to the next step. If the U_{of} does not fall within the given range for the column, the proposed design does not comply with this path; return to the next circled Maximum Percent Fenestration value and repeat Steps (e) and (f). If no other values are circled, the proposed design does not comply.

(g) Proceed to the box labeled #6, U_{ow} and HC. The compliance values for Heat Capacity levels and corresponding levels for Overall Thermal Transmittances of the Wall Assembly for buildings designed with insulation placed either Interior or Integral to the wall or on the walls exterior are found in Table 5.4–34. First, identify the appropriate column, either the one labeled For Base Case, Perimeter Daylighting or High Performance Glazing or For Wall Thermal Mass. If the former is selected two choices are available, either insulation placed interior to the wall or exterior to the wall. To comply with the Wall Thermal Mass option, the insulation must be placed exterior to the mass. Next identify the appropriate HC range for the proposed building design. Next move down to the U_{ow} value in the appropriate Insulation Position column.

(1) If the U_{ow} for the proposed design meets or exceeds the value shown, and the proposed design does not specify the use of automatic lighting controls for perimeter daylighting, the proposed design complies with the prescriptive envelope requirements of the section. If automatic lighting controls are employed, proceed to the next step. If the U_{ow} is not equal to or less than the value shown, the proposed design does not comply; return to the next circled Maximum Percent Fenestration value and repeat Steps (e), (f), and (g). If no other values are circled, the proposed design does not comply.

(h) Proceed to the box labeled #7, Lighting Controls. In order to take advantage of the perimeter daylighting trade-offs inherent in the Standards, automatic daylighting controls must be employed as specified in Section 3.0. If the perimeter daylighting option has been chosen for the proposed design and controls employed, the proposed design complies unless the design specifies the use of high performance glazings. If high performance glazings are specified, proceed to the next step. If the perimeter daylighting option is chosen and lighting controls are not employed, the proposed design does not comply; return to the next circled Maximum Percent Fenestration value and repeat Steps (e), (f), and (g). If no other values are circled, the proposed design does not comply.

(i) The final step pertains only to those designs that specify high performance glazings. In order for the design to comply, the Visible Transmittance (VT) of the glazing must be equal to or greater than the Shading Coefficient (SC_x).

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ALTERNATE COMPONENT PACKAGES FOR:

HDD50 = 0
CDD65 = 3001-4500
VSEW = >800
CDH80 = N/A

(1) INTERNAL LOAD RANGE

(2) SHADING COEFFICIENT

INTERNAL LOAD RANGE	SHADING COEFFICIENT
0 - 1.0	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00
1.01 - 1.5	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00
1.51 - 2.0	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00
2.01 - 2.5	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00
2.51 - 3.0	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00
3.01 - 3.5	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00

BASE CASE					
PCT FENESTR			PCT FENESTR		
16	22	28	16	21	28
20	27	36	20	27	35
25	33	44	24	32	42
30	41	55	29	39	52
42	57	77	40	53	71
69	98	100	64	88	100
15	20	26	15	20	26
19	26	34	19	25	32
23	31	41	22	30	39
28	38	51	27	37	48
39	53	72	37	50	66
65	91	100	60	82	100
14	19	24	14	18	24
18	24	31	17	23	30
21	29	38	21	28	36
26	35	47	25	34	44
36	49	67	34	46	61
60	84	100	56	76	100
13	17	23	13	17	22
16	22	29	16	21	28
20	26	35	19	25	33
24	33	43	23	31	41
33	45	61	32	43	56
55	77	100	51	70	94
10	13	18	10	13	17
13	17	23	12	17	22
15	21	27	15	20	26
19	26	34	18	25	32
26	35	48	25	34	44
43	60	84	40	55	74
7	10	13	7	10	13
9	13	16	9	12	16
11	15	20	11	15	19
14	19	25	14	18	24
19	26	35	18	25	33
32	44	60	30	41	54

(4) PROJECTION FACTOR | .0 | .25 | .5 | .0 | .25 | .5 |

(5) U_{of} | 1.15 - 0.82 | 0.81 - 0.00 |

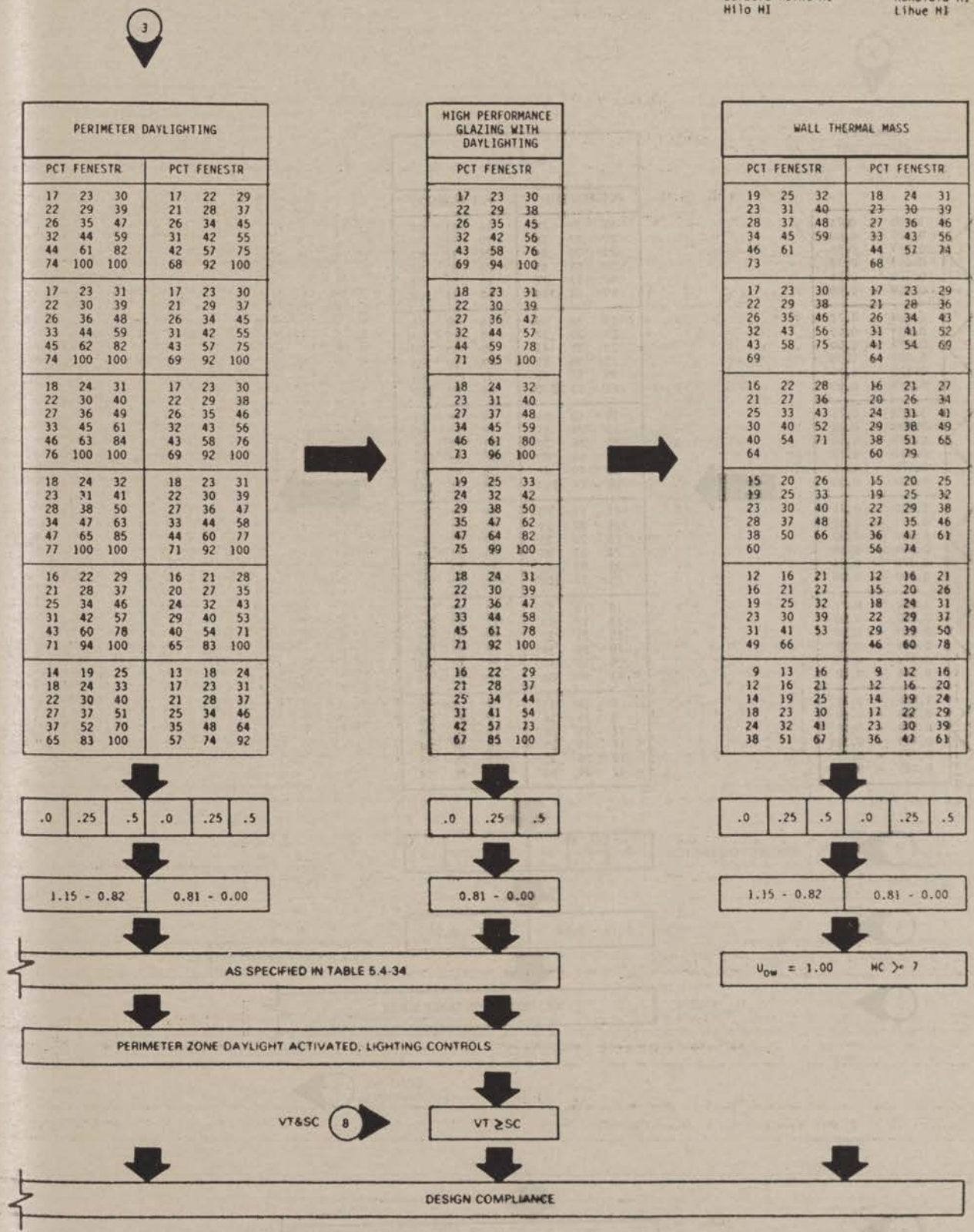
(6) U_{ow} AND HC | AS SPECIFIED IN TABLE 5.4-34 |

LIGHTING CONTROLS (7)

(9) COMPLIANCE | DESIGN COMPLIANCE |

TABLE NUMBER: 5.A-4
INCLUDING THE FOLLOWING EXAMPLE CITIES:

Barbers Point HI
Hilo HI
Honolulu HI
Lihue HI



ALTERNATE COMPONENT PACKAGES FOR:

HDD50 = 0
CDD65 = >4500
VSEW = >845
CDH80 = N/A

(1) INTERNAL LOAD RANGE

(2) SHADING COEFFICIENT

INTERNAL LOAD RANGE	SHADING COEFFICIENT
0 - 1.0	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00
1.01 - 1.5	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00
1.51 - 2.0	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00
2.01 - 2.5	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00
2.51 - 3.0	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00
3.01 - 3.5	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00

BASE CASE

PCT FENESTR			PCT FENESTR		
16	22	28	16	21	28
20	27	36	20	27	35
25	33	44	24	32	42
30	41	55	29	39	52
42	57	77	40	53	71
69	98	100	64	88	100
15	20	26	15	20	26
19	26	34	19	25	32
23	31	41	22	30	39
28	38	51	27	37	48
39	53	72	37	50	66
65	91	100	60	82	100
14	19	24	14	18	24
18	24	31	17	23	30
21	29	38	21	28	36
26	35	47	25	34	44
36	49	67	34	46	61
60	84	100	56	76	100
13	17	23	13	17	22
16	22	29	16	21	28
20	26	35	19	25	33
24	33	43	23	31	41
33	45	61	32	43	56
55	77	100	51	70	94
10	13	18	10	13	17
13	17	23	12	17	22
15	21	27	15	20	26
19	26	34	18	25	32
26	35	48	25	34	44
43	60	84	40	55	74
7	10	13	7	10	13
9	13	16	9	12	16
11	15	20	11	15	19
14	19	25	14	18	24
19	26	35	18	25	33
32	44	60	30	41	54

(4) PROJECTION FACTOR

.0	.25	.5	.0	.25	.5

(5) U_{of}

1.15 - 0.82	0.81 - 0.00

(6) U_{ow} AND HC

AS SPECIFIED IN TABLE 5.4-34

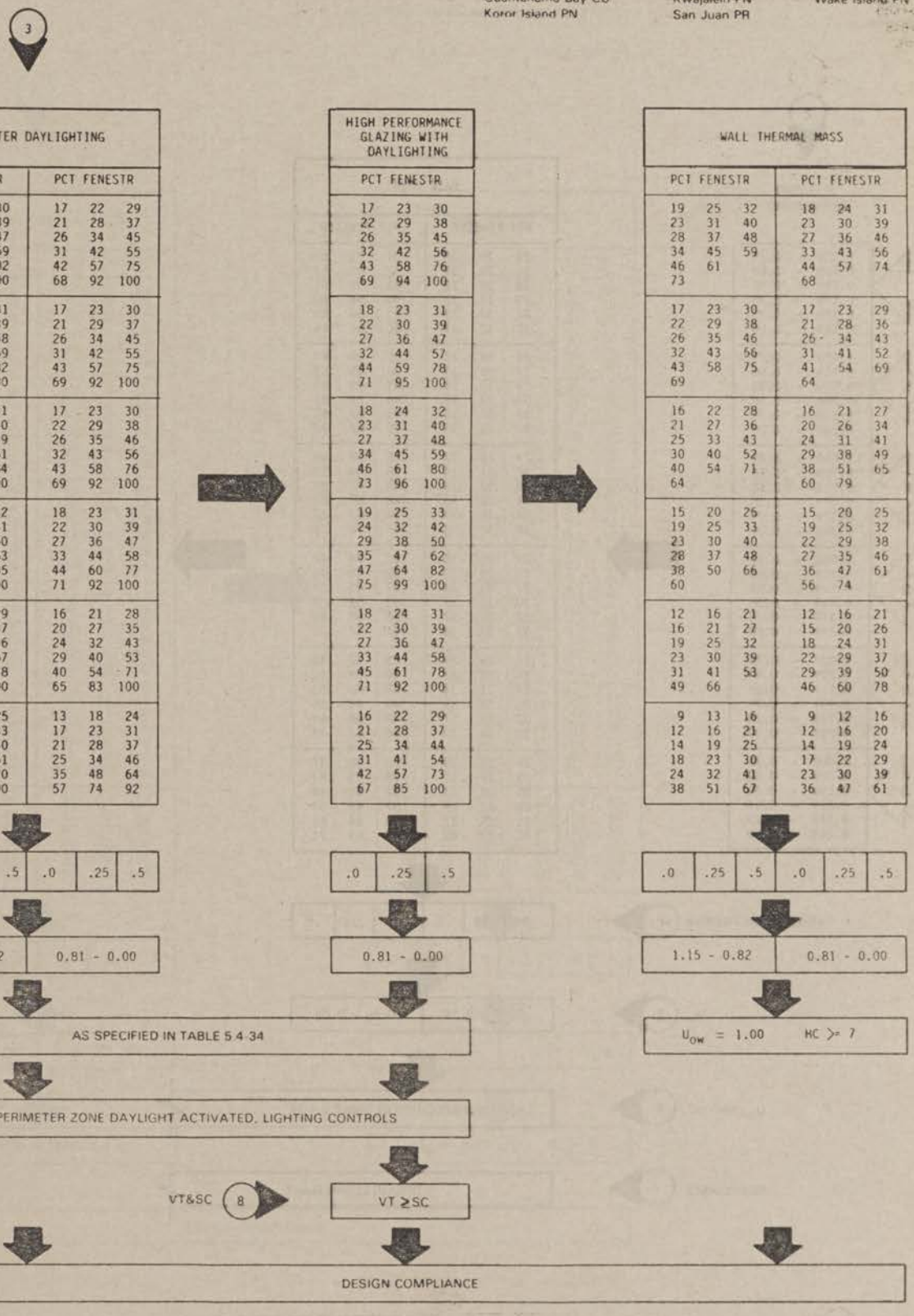
(7) LIGHTING CONTROLS

(9) COMPLIANCE

DESIGN COMPLIANCE

TABLE NUMBER 5.A.5
INCLUDING THE FOLLOWING EXAMPLE CITIES:

Guantanamo Bay CU
Koror Island PN
Kwajalein PN
San Juan PR
Wake Island PN



ALTERNATE COMPONENT
PACKAGES FOR:

HDD50 = 1-1000
CDD65 = 0-1150
VSEW = 560-845
CDH80 = N/A

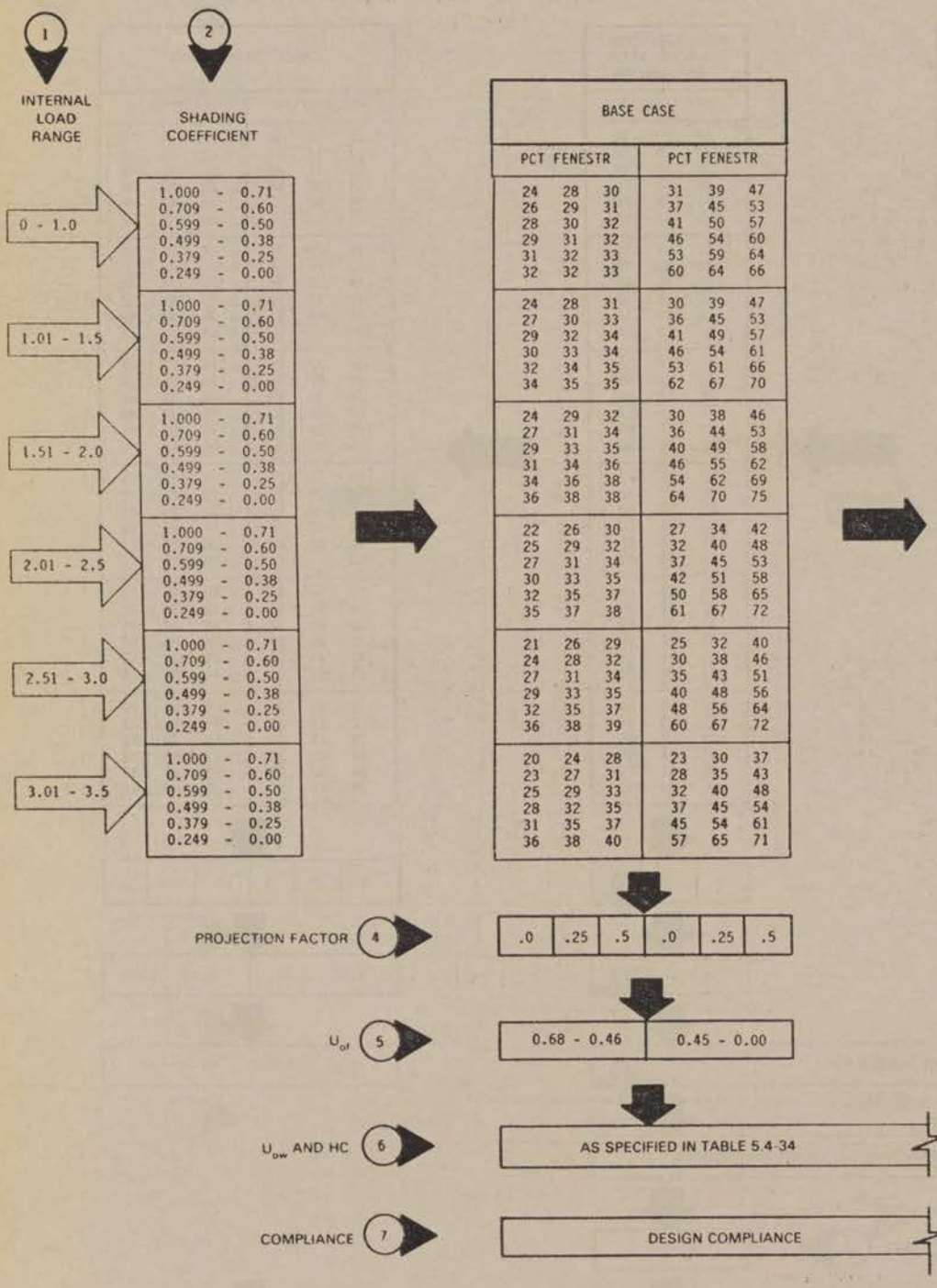


TABLE NUMBER: 5.A-6

INCLUDING THE FOLLOWING EXAMPLE CITIES:

Arcata CA North Bend OR

(3)

HIGH PERFORMANCE GLAZING					
PCT FENESTR			PCT FENESTR		
33	42	51	60	76	91
39	49	59	71	87	100
44	55	64	78	94	100
51	61	70	89	100	100
59	69	76	90	100	100
71	77	82	100	100	100
32	41	50	58	74	90
38	48	58	69	86	100
44	54	64	77	94	100
50	61	70	88	100	100
59	70	78	90	100	100
73	80	86	100	100	100
31	40	49	57	72	89
37	47	58	68	85	100
43	54	64	76	93	100
49	60	71	88	100	100
59	71	80	90	100	100
74	83	90	100	100	100
28	36	45	51	66	81
34	43	53	62	77	93
39	49	59	69	85	100
45	55	65	80	97	100
55	65	75	82	99	100
69	79	86	100	100	100
26	33	42	48	62	76
31	40	50	58	73	88
36	46	56	65	81	97
42	53	63	76	93	100
52	63	73	78	95	100
67	77	85	100	100	100
23	31	39	44	57	70
29	37	46	53	67	83
33	42	52	60	75	91
39	49	59	71	87	100
48	59	69	73	89	100
64	74	83	100	100	100

WALL THERMAL MASS					
PCT FENESTR			PCT FENESTR		
26	30	33	34	42	50
29	32	34	40	48	56
31	33	35	44	53	60
32	34	35	49	57	63
33	35	35	56	62	66
34	35	35	63	67	69
27	31	34	33	41	50
30	33	36	39	48	56
32	35	37	44	53	60
33	36	38	49	58	64
35	37	38	56	64	69
37	38	38	65	70	73
27	32	35	32	41	49
30	34	38	38	48	56
32	36	39	43	53	61
35	38	40	49	58	66
37	40	41	57	65	72
40	41	42	68	73	77
25	30	34	30	38	46
28	33	36	35	44	52
31	35	38	40	49	57
33	37	39	46	54	62
36	39	41	54	62	68
39	41	42	64	71	75
24	29	33	28	36	44
28	32	36	33	42	50
30	35	38	38	47	55
33	37	40	44	53	61
36	39	42	52	60	68
40	42	44	64	71	76
23	28	32	26	33	41
26	31	35	31	39	48
29	34	38	36	44	53
32	36	40	41	50	58
36	39	42	49	58	66
41	43	45	62	69	75

.0	.25	.5	.0	.25	.5

0.38 - 0.29	0.28 - 0.00

AS SPECIFIED IN TABLE 5.4-34

.0	.25	.5	.0	.25	.5

0.68 - 0.46	0.45 - 0.00

U_{OW} = 0.10 HC $\geq$ 7

DESIGN COMPLIANCE

ALTERNATE COMPONENT PACKAGES FOR:

HDD50 = 1-1000
CDD65 = 0-300
VSEW = >845
CDH80 = N/A

(1) INTERNAL LOAD RANGE

(2) SHADING COEFFICIENT

0 - 1.0	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00
1.01 - 1.5	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00
1.51 - 2.0	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00
2.01 - 2.5	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00
2.51 - 3.0	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00
3.01 - 3.5	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00

BASE CASE

PCT FENESTR			PCT FENESTR		
24	31	38	25	33	41
29	37	44	31	40	50
33	41	49	36	46	57
38	47	55	42	53	65
46	55	63	53	65	77
59	67	73	72	85	96
24	31	38	25	33	41
29	37	45	31	40	49
33	42	50	36	46	57
39	48	56	42	53	65
47	57	65	53	66	79
61	70	77	73	87	100
22	28	35	22	29	37
26	33	41	28	36	45
30	38	46	32	41	52
35	44	52	38	49	60
44	53	61	48	60	73
57	66	73	67	81	93
19	25	31	20	26	33
23	30	37	24	31	40
27	34	42	28	37	46
32	39	47	34	43	53
39	48	56	43	54	66
52	61	68	60	73	86
17	22	27	17	23	29
21	26	33	21	28	35
24	31	38	25	32	41
28	35	43	30	38	48
35	43	51	38	49	59
48	57	64	55	67	79
14	19	24	15	19	25
18	23	29	18	24	30
21	27	33	21	28	35
24	31	38	26	33	42
31	39	46	33	42	52
43	51	59	48	59	71

(4) PROJECTION FACTOR: .0 | .25 | .5 | .0 | .25 | .5

(5) U_{sk}: 1.15 - 0.82 | 0.81 - 0.00

(6) U_{sk} AND HC: AS SPECIFIED IN TABLE 5.4-34

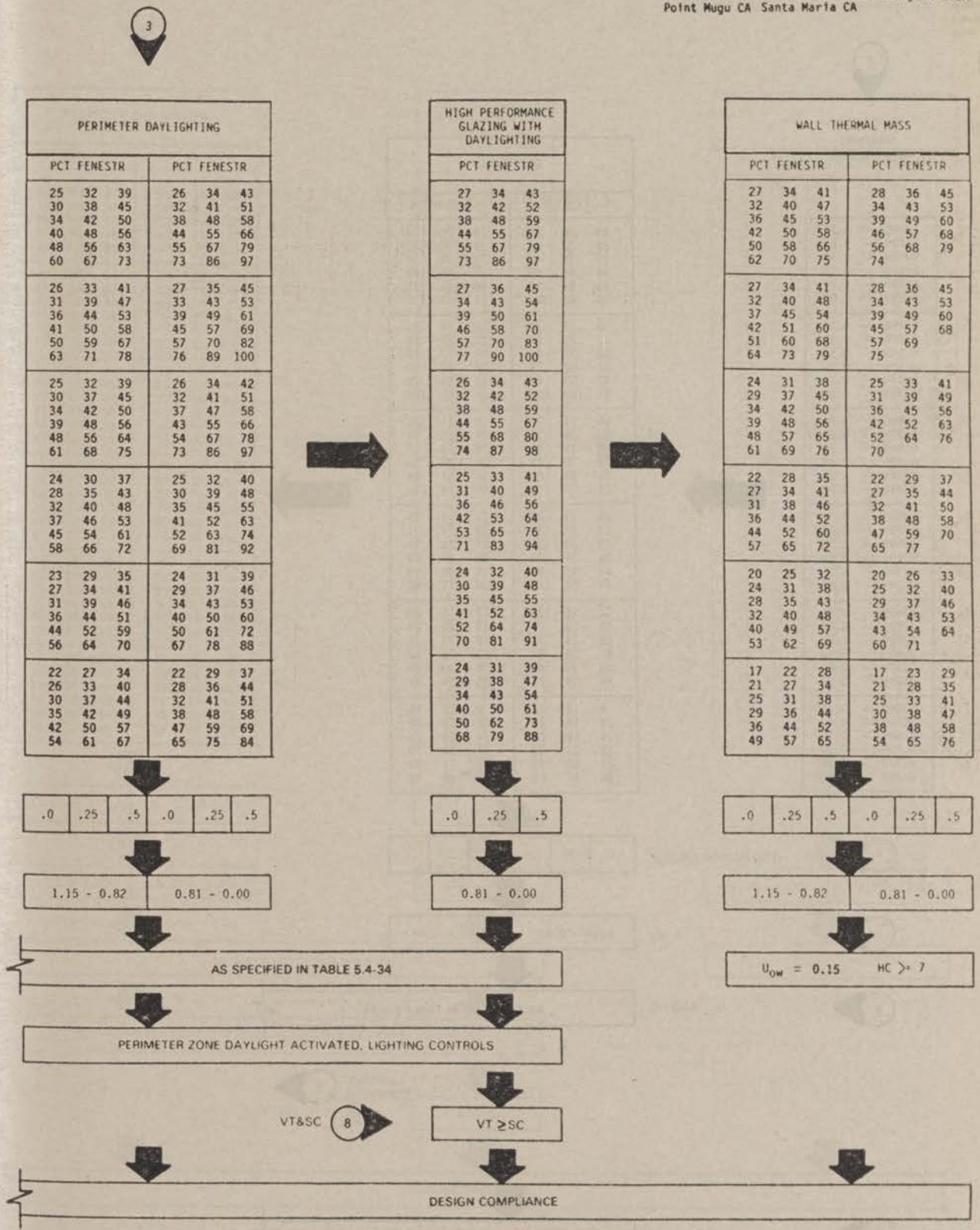
LIGHTING CONTROLS (7)

(9) COMPLIANCE: DESIGN COMPLIANCE

TABLE NUMBER: 5.A.7

INCLUDING THE FOLLOWING EXAMPLE CITIES:

Oakland CA San Francisco CA Sunnyville CA
Point Mugu CA Santa Maria CA



ALTERNATE COMPONENT PACKAGES FOR:

HDD50 = 1-1000
CDD65 = 301-1150
VSEW = >845
CDH80 = N/A

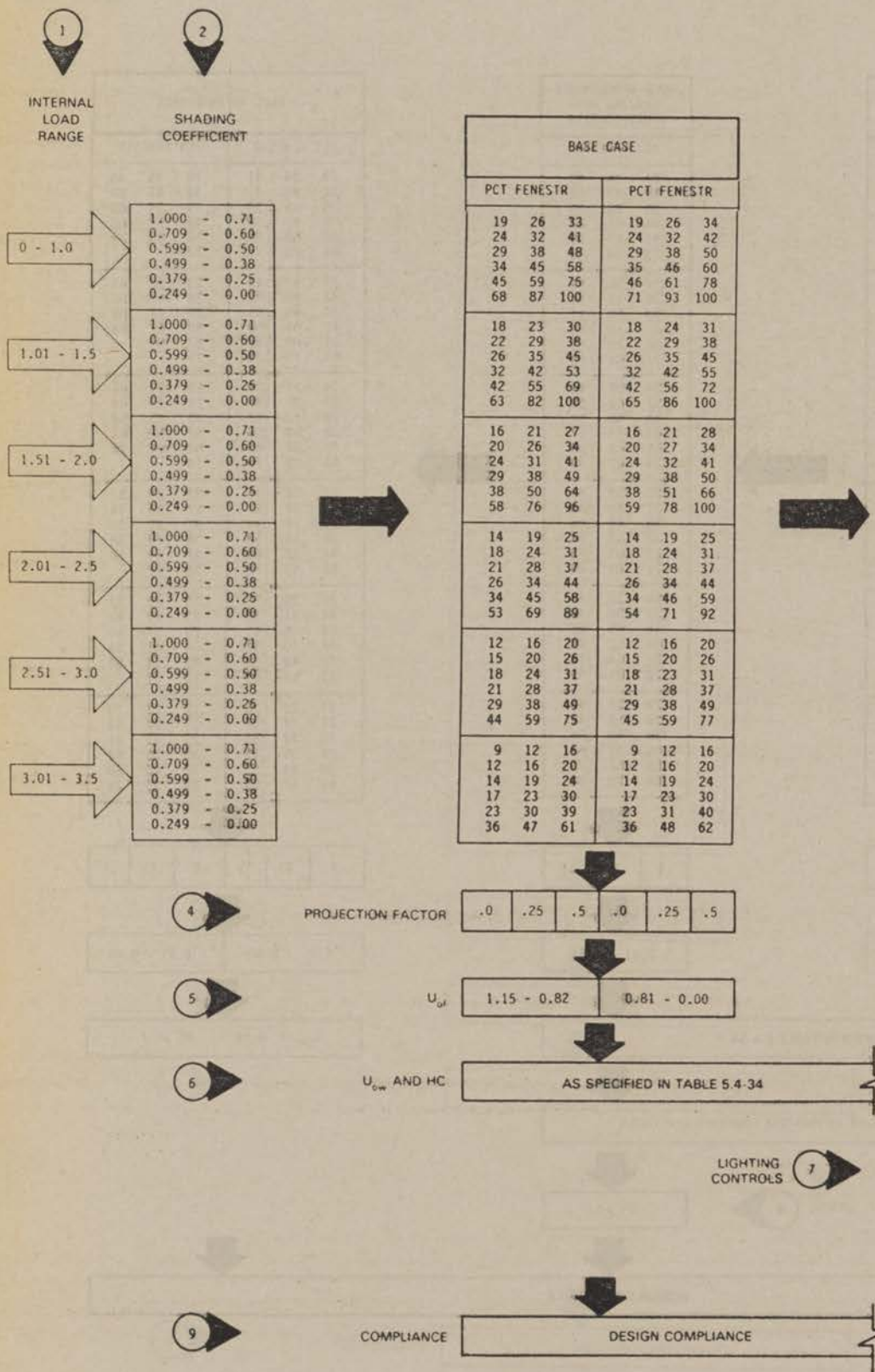
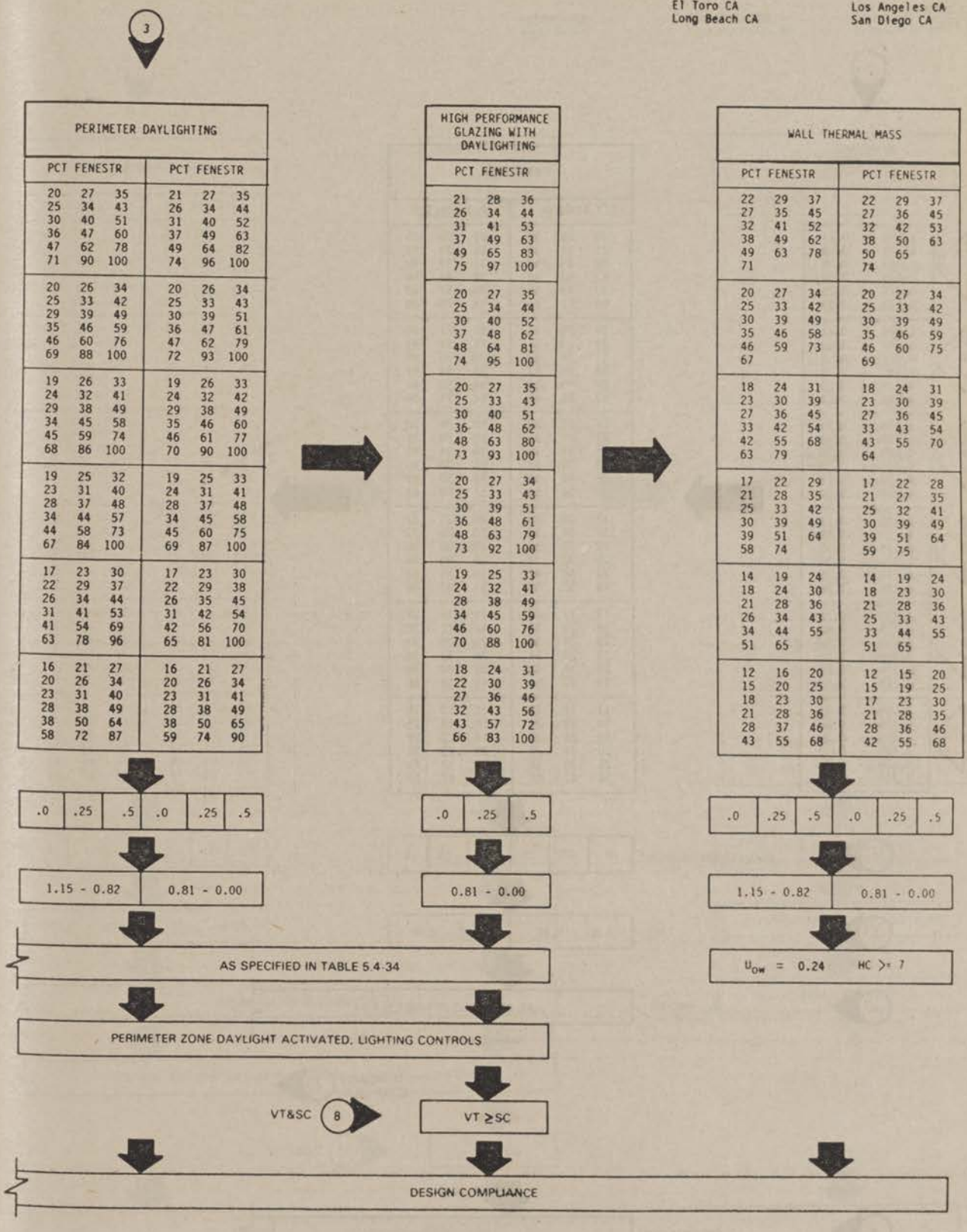


TABLE NUMBER 5.A.8
INCLUDING THE FOLLOWING EXAMPLE CITIES:

El Toro CA
Long Beach CA

Los Angeles CA
San Diego CA



ALTERNATE COMPONENT PACKAGES FOR:

HDD50 = 1-1000
CDD65 = 1151-2000
VSEW = 560-845
CDH80 = N/A

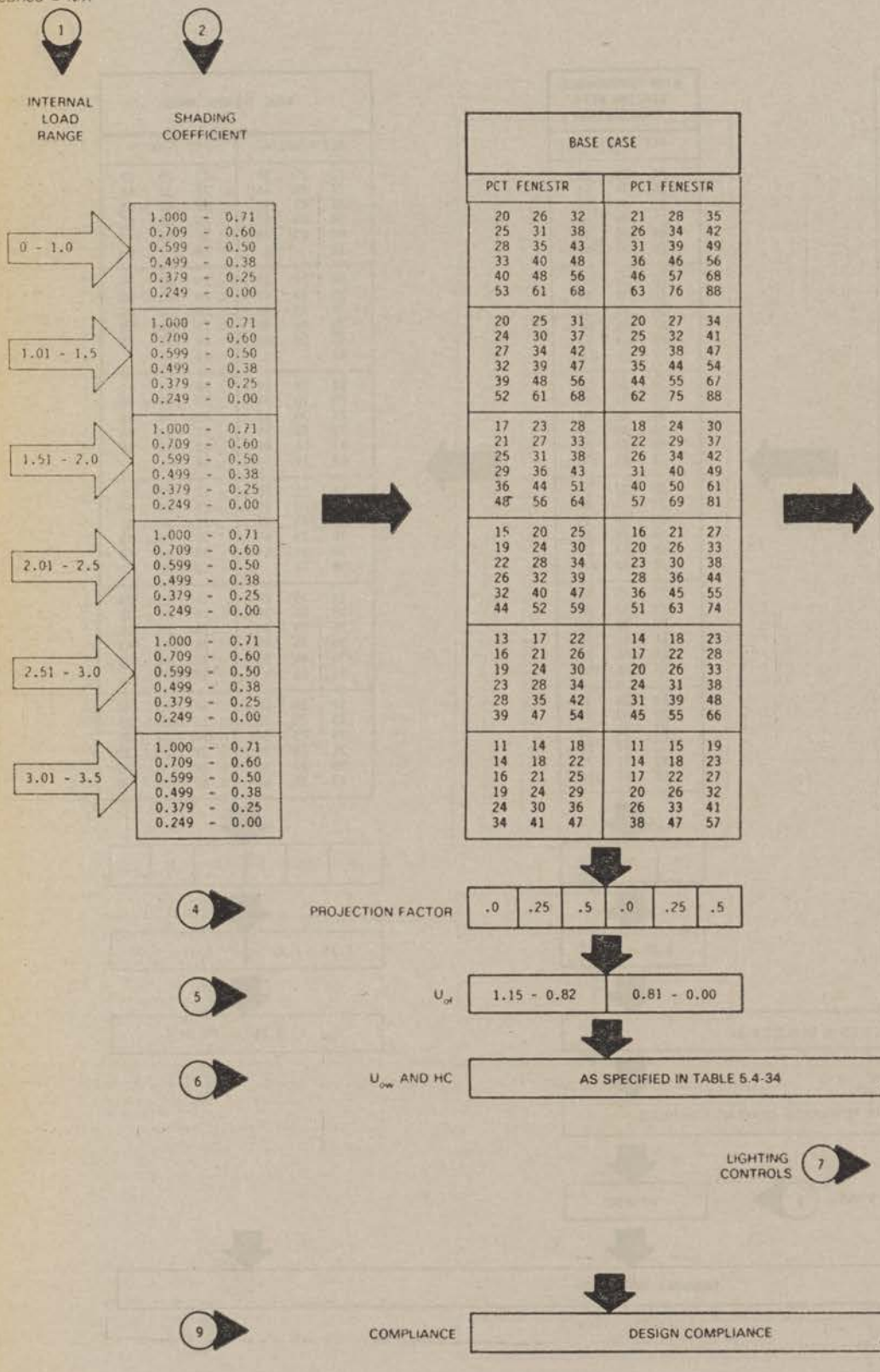
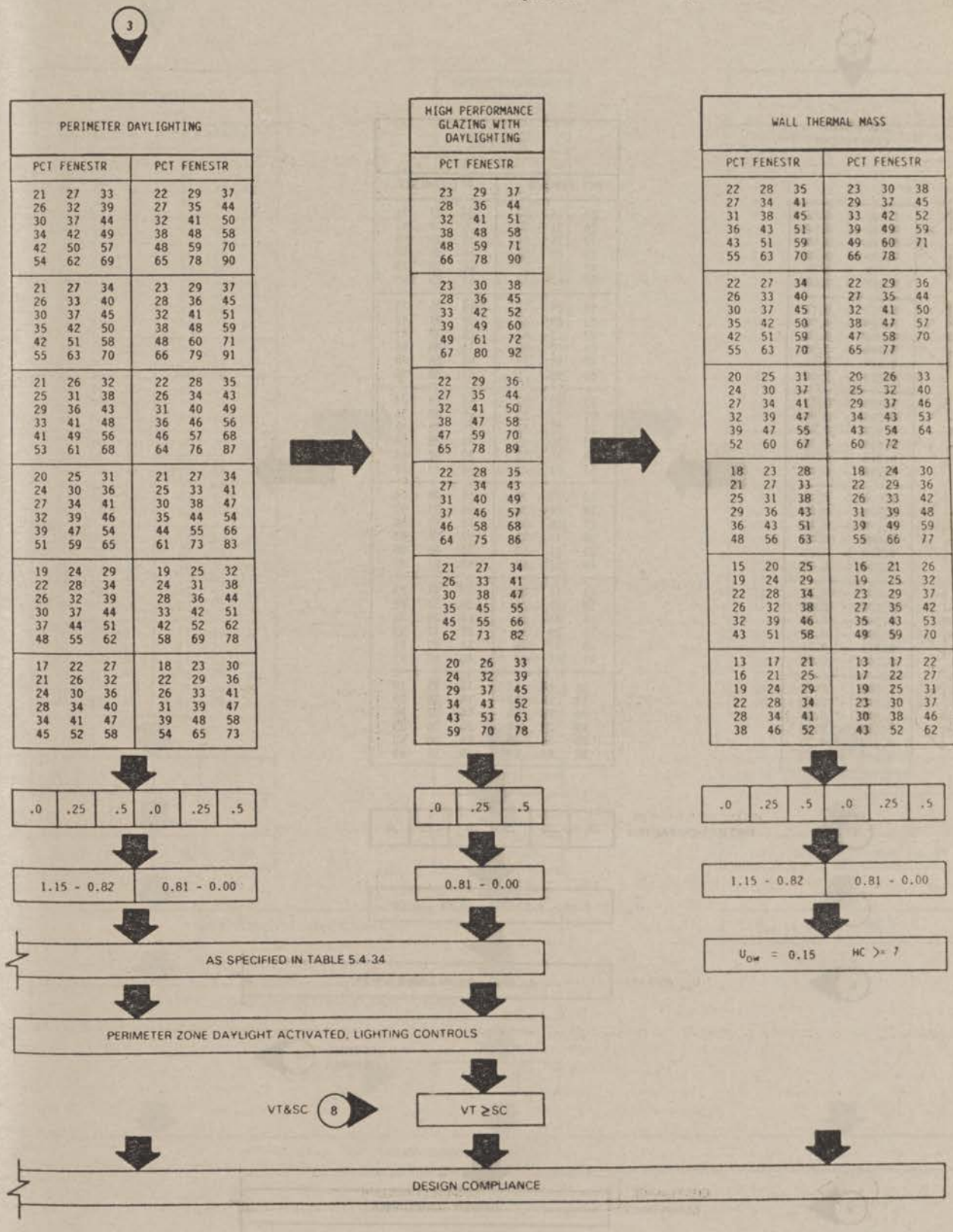


TABLE NUMBER 5.4.9
INCLUDING THE FOLLOWING EXAMPLE CITIES

Atlanta GA
Augusta GA

Birmingham AL
Cape Hatteras NC

Cherry Point NC
Greenville NC



ALTERNATE COMPONENT PACKAGES FOR:

HDD50 = 1-1000
CDD65 = 1151-2000
VSEW = >845
CDH80 = N/A

(1) INTERNAL LOAD RANGE

(2) SHADING COEFFICIENT

INTERNAL LOAD RANGE	SHADING COEFFICIENT
0 - 1.0	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00
1.01 - 1.5	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00
1.51 - 2.0	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00
2.01 - 2.5	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00
2.51 - 3.0	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00
3.01 - 3.5	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00

BASE CASE

PCT FENESTR			PCT FENESTR		
20	26	32	20	27	35
24	31	39	25	33	43
28	36	44	30	39	50
33	42	51	36	46	58
42	51	61	46	59	73
57	67	77	67	83	100
18	24	31	19	25	33
23	29	37	24	31	40
27	34	42	28	37	47
31	40	49	34	44	55
40	49	59	43	56	70
55	65	75	63	80	96
17	22	28	17	23	29
21	27	33	21	28	36
24	31	39	25	33	42
28	36	45	30	39	50
36	45	55	39	51	64
51	61	71	58	73	89
15	19	25	15	20	26
18	24	30	19	25	32
22	28	35	22	30	38
26	33	41	27	35	45
33	41	50	35	46	58
46	57	67	53	67	82
13	17	22	13	17	23
16	21	26	16	22	28
19	24	31	19	26	33
22	29	36	23	31	39
29	37	45	31	40	51
41	51	60	46	59	73
11	14	18	11	15	19
13	18	22	14	18	24
16	21	26	16	22	28
19	25	31	20	26	33
25	31	39	26	34	43
36	45	53	39	51	63

(4) PROJECTION FACTOR: .0 | .25 | .5 | .0 | .25 | .5

(5) U_{of}: 1.15 - 0.82 | 0.81 - 0.00

(6) U_{ow} AND HC: AS SPECIFIED IN TABLE 5.4-34

(7) LIGHTING CONTROLS

(9) COMPLIANCE: DESIGN COMPLIANCE

TABLE NUMBER 5 A 10
INCLUDING THE FOLLOWING EXAMPLE CITIES:

Fresno CA
Red Bluff CA
Sacramento CA

(3)

PERIMETER DAYLIGHTING					
PCT FENESTR			PCT FENESTR		
21	27	34	21	28	36
25	32	40	26	35	44
29	37	46	31	41	51
34	43	52	37	48	60
43	53	62	48	61	75
58	68	78	69	85	100
20	26	33	21	28	36
25	32	39	26	34	44
29	37	45	31	40	51
34	42	52	36	47	59
42	52	62	47	60	74
57	68	77	68	83	100
19	25	32	20	27	34
24	30	38	25	33	42
28	35	43	29	38	49
32	41	50	35	45	57
41	50	60	45	58	71
55	66	75	65	80	95
19	24	30	19	25	33
23	29	36	24	31	40
26	34	42	28	37	47
31	39	48	34	44	55
39	48	58	43	56	69
54	64	73	63	77	92
17	23	29	18	24	31
21	28	34	22	29	38
25	32	39	26	35	44
29	37	45	32	41	52
37	46	55	41	53	65
51	60	69	60	73	86
16	21	27	17	22	29
20	26	32	21	27	35
23	30	37	24	32	41
27	35	42	29	38	48
35	43	51	38	49	61
48	57	65	56	69	81

.0	.25	.5	.0	.25	.5

1.15 - 0.82	0.81 - 0.00

HIGH PERFORMANCE GLAZING WITH DAYLIGHTING					
PCT FENESTR					
22	28	36			
27	35	45			
31	41	52			
37	48	61			
48	61	75			
69	85	100			
21	28	36			
26	35	44			
31	41	51			
37	48	60			
48	61	75			
69	85	100			
21	27	35			
26	34	43			
30	39	50			
36	47	59			
46	59	73			
67	82	97			
20	27	34			
25	33	42			
29	38	49			
35	46	57			
45	58	71			
66	80	95			
19	26	33			
24	32	40			
28	37	47			
34	44	55			
44	56	69			
63	77	91			
18	25	31			
23	30	39			
27	36	45			
32	42	53			
42	54	66			
61	74	86			

.0	.25	.5

0.81 - 0.00

WALL THERMAL MASS					
PCT FENESTR			PCT FENESTR		
23	29	36	23	31	39
28	35	43	29	37	47
32	40	49	34	43	54
37	46	55	40	51	62
46	56	65	51	63	76
61	71		70		
21	28	35	22	29	37
26	33	41	27	35	45
30	38	47	32	41	51
35	44	53	38	48	60
44	54	63	48	60	73
59	69	79	68		
20	25	32	20	26	34
24	31	38	25	32	41
28	35	44	29	38	47
33	41	50	35	44	55
41	50	60	44	56	68
56	66	75	63	77	
18	23	29	18	24	30
22	28	35	22	29	37
26	33	40	26	34	43
30	38	46	31	41	51
38	47	56	41	52	63
52	62	71	58	72	
16	21	26	16	21	27
19	25	31	20	26	33
23	29	36	23	30	39
27	34	42	28	36	45
34	42	51	36	46	57
47	57	66	52	65	78
14	18	23	14	18	23
17	22	27	17	22	29
20	25	32	20	26	34
23	30	37	24	31	40
30	38	46	32	40	50
42	51	60	46	58	70

.0	.25	.5	.0	.25	.5

1.15 - 0.82	0.81 - 0.00

U_{ow} = 0.15 HC >= 7

AS SPECIFIED IN TABLE 5.4-34

PERIMETER ZONE DAYLIGHT ACTIVATED LIGHTING CONTROLS

VT&SC (8)

VT ≥ SC

DESIGN COMPLIANCE

ALTERNATE COMPONENT PACKAGES FOR:

HDD50 = 1-1000
CDD65 = 2001-3250
VSEW = 560-845
CDH80 = N/A

(1) INTERNAL LOAD RANGE

(2) SHADING COEFFICIENT

0 - 1.0	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00
1.01 - 1.5	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00
1.51 - 2.0	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00
2.01 - 2.5	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00
2.51 - 3.0	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00
3.01 - 3.5	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00

BASE CASE

PCT FENESTR			PCT FENESTR		
19	25	32	20	26	34
24	31	40	25	33	42
28	37	46	29	39	50
34	44	55	35	46	59
44	56	69	47	61	77
63	78	94	70	91	100
18	23	30	18	24	31
22	29	37	22	30	38
26	34	43	27	35	45
31	40	50	32	42	54
40	52	64	43	56	71
59	74	89	65	84	100
16	21	27	16	22	28
20	26	33	20	27	35
24	31	39	24	32	41
28	37	46	29	39	50
37	47	59	39	51	65
54	69	83	59	77	97
14	19	24	14	19	25
18	24	30	18	24	31
21	28	35	22	29	37
26	33	42	26	35	45
33	43	54	35	46	59
50	63	78	54	70	89
12	16	20	12	16	21
15	20	25	15	20	26
18	23	30	18	24	31
21	28	36	22	29	38
28	37	46	29	39	50
42	54	67	45	59	75
10	13	16	10	13	17
12	16	20	12	16	21
14	19	24	15	19	25
17	23	29	18	23	30
23	30	38	24	31	40
35	45	55	37	48	62

(4) PROJECTION FACTOR: .0 | .25 | .5 | .0 | .25 | .5

(5) U_{of}: 1.15 - 0.82 | 0.81 - 0.00

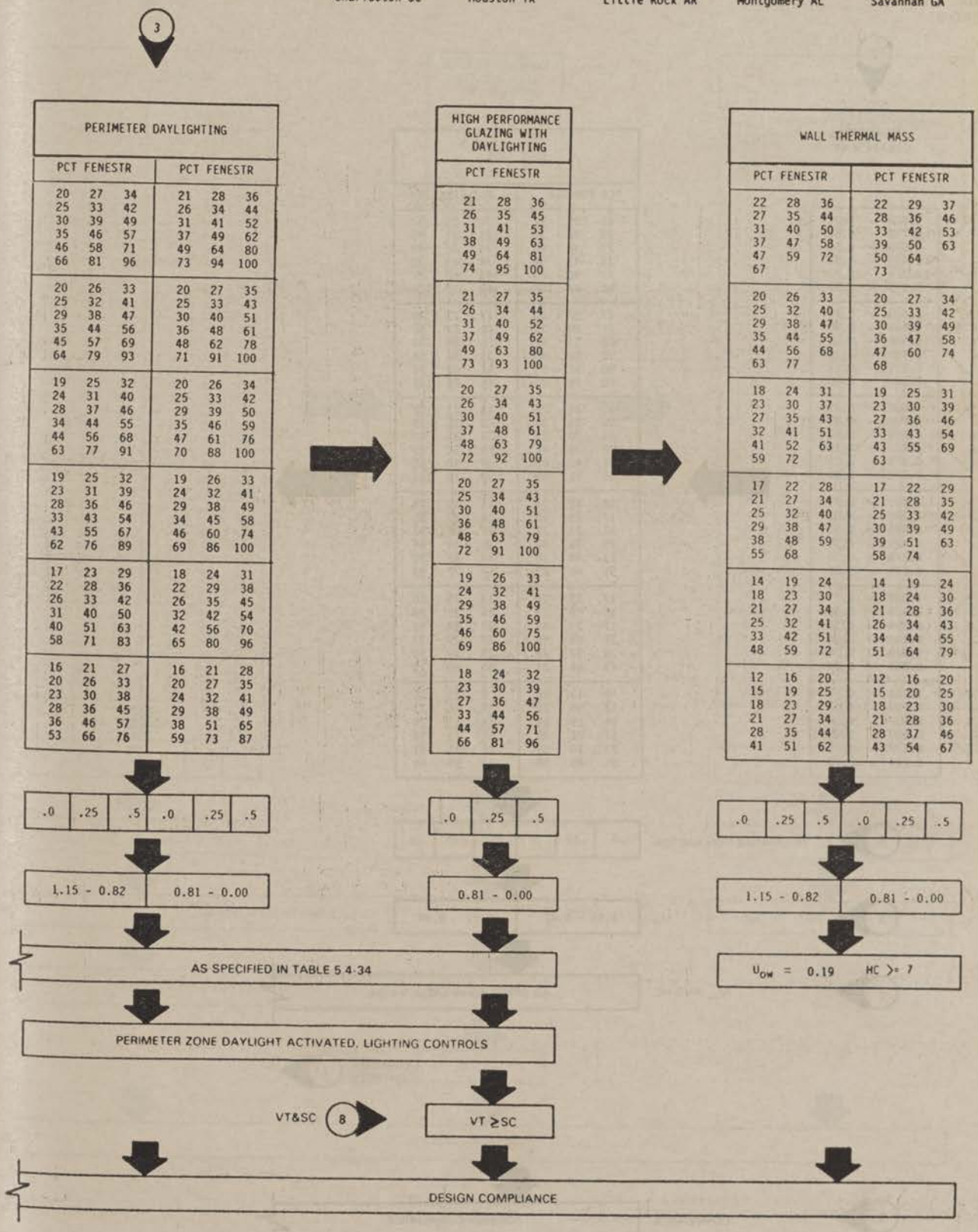
(6) U_{ow} AND HC: AS SPECIFIED IN TABLE 5.4-34

LIGHTING CONTROLS (7)

(9) COMPLIANCE: DESIGN COMPLIANCE

TABLE NUMBER: 5.A-11
INCLUDING THE FOLLOWING EXAMPLE CITIES:

Baton Rouge LA, Charleston SC, Columbia SC, Houston TX, Jackson MS, Little Rock AR, Mobile AL, Montgomery AL, New Orleans LA, Savannah GA



ALTERNATE COMPONENT PACKAGES FOR:-

HDD50 = 1-1000
CDD65 = 2001-3250
VSEW = >845
CDH80 = 0-18,000

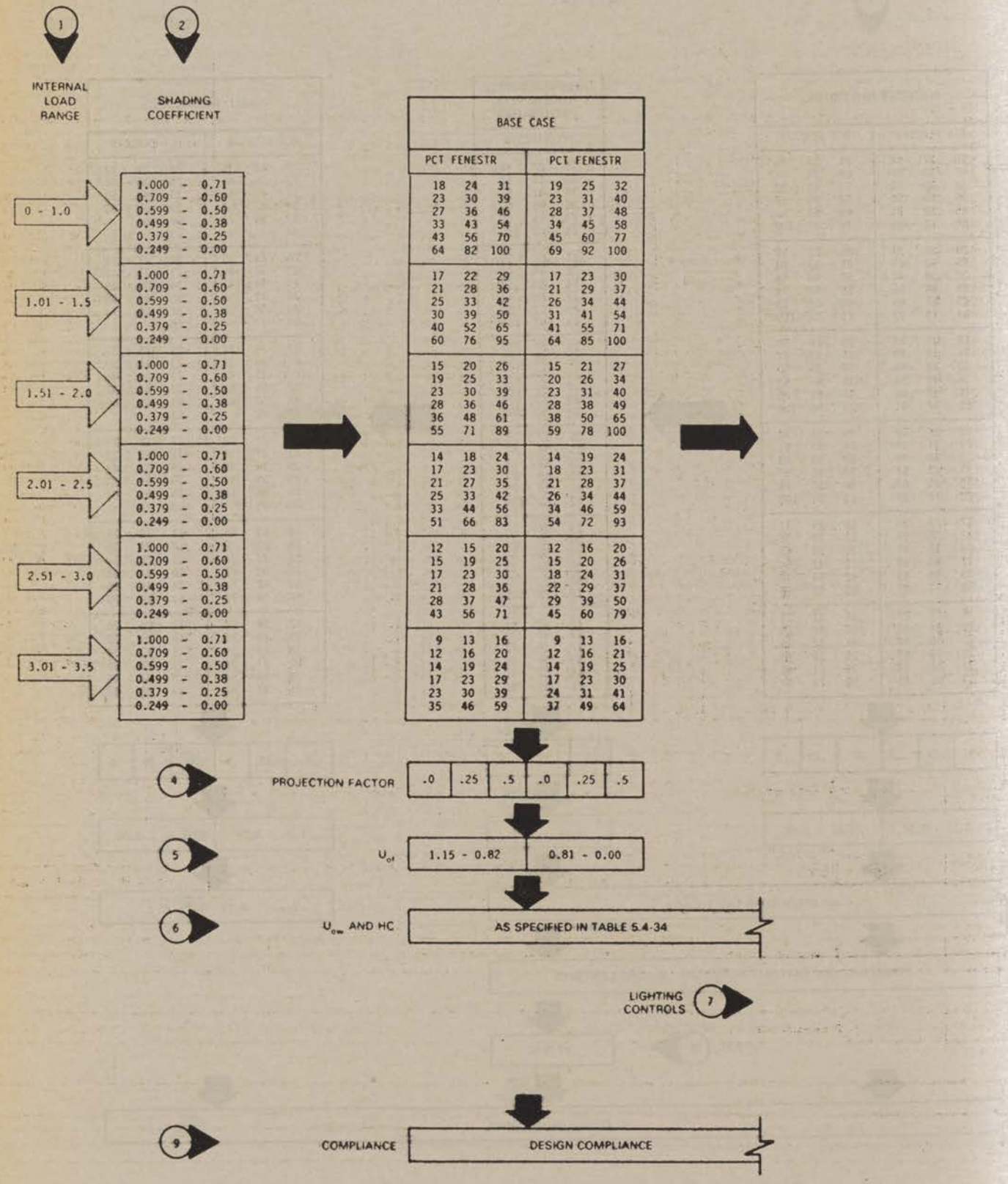


TABLE NUMBER 5.4-12
INCLUDING THE FOLLOWING EXAMPLE CITIES:

Abilene TX, Austin TX, Bakersfield CA, Daytona FL, El Paso TX, Fort Worth TX, Jacksonville FL, San Antonio TX, Tallahassee FL, Tampa FL

(3)

PERIMETER DAYLIGHTING											
PCT FENESTR						PCT FENESTR					
19	26	33				20	26	34			
24	32	41				25	33	42			
28	37	48				29	39	50			
34	45	57				35	47	61			
45	58	73				47	62	80			
66	84	100				72	95	100			
19	25	32				19	25	33			
23	31	40				24	32	41			
28	36	47				29	38	49			
33	44	55				35	46	60			
44	57	71				46	61	78			
65	82	100				71	92	100			
18	24	31				19	25	32			
23	30	39				23	31	41			
27	36	46				28	37	48			
33	43	55				34	45	58			
43	56	70				45	60	77			
64	81	98				70	90	100			
18	24	31				18	24	32			
22	30	38				23	31	40			
27	35	45				27	37	48			
32	42	54				33	44	58			
42	55	69				44	59	75			
64	79	97				69	88	100			
17	22	29				17	23	30			
21	28	36				21	28	37			
25	33	42				25	34	44			
30	39	50				31	41	54			
39	52	65				41	55	70			
59	74	89				65	82	100			
15	20	26				15	20	27			
19	25	32				19	26	34			
22	30	38				23	31	40			
27	36	46				28	37	49			
36	47	60				37	50	65			
54	69	82				59	75	92			

HIGH PERFORMANCE GLAZING WITH DAYLIGHTING											
PCT FENESTR											
20	26	34									
25	33	43									
30	39	51									
36	47	61									
48	63	81									
73	96	100									
20	26	34									
24	33	42									
29	39	50									
35	47	61									
47	62	80									
72	94	100									
19	26	34									
24	32	42									
29	39	50									
35	47	61									
47	62	79									
72	93	100									
19	26	34									
24	32	42									
29	39	50									
35	47	61									
47	62	79									
72	93	100									
18	25	32									
23	31	40									
28	37	48									
34	45	58									
45	60	76									
69	88	100									
17	23	30									
22	29	38									
26	35	46									
32	42	55									
43	57	72									
66	83	100									

WALL THERMAL MASS											
PCT FENESTR						PCT FENESTR					
21	27	35				21	28	36			
26	34	43				26	35	44			
30	40	50				31	41	52			
36	47	58				37	49	62			
47	60	73				49	63				
68						73					
19	25	33				20	26	33			
24	31	40				24	32	41			
28	37	47				29	38	49			
34	44	55				35	46	58			
44	56	69				46	59	75			
64						68					
18	24	30				18	24	31			
22	29	37				22	30	38			
26	34	43				27	35	45			
31	41	51				32	42	54			
41	52	65				42	55	70			
60	75					63					
16	22	28				16	22	28			
20	27	34				21	27	35			
24	31	40				24	32	41			
29	38	47				29	39	49			
38	49	61				39	51	64			
56	70					59	76				
14	19	24				14	19	24			
18	23	29				18	23	30			
21	27	35				21	28	36			
25	32	41				25	33	43			
33	42	53				34	44	56			
49	62	76				51	66				
12	15	20				12	16	20			
15	19	25				15	20	25			
17	23	29				18	23	30			
21	27	35				21	28	36			
28	36	45				28	37	47			
41	53	65				43	56	70			

.0	.25	.5	.0	.25	.5

1.15 - 0.82	0.81 - 0.00

.0	.25	.5

0.81 - 0.00

.0	.25	.5	.0	.25	.5

1.15 - 0.82	0.81 - 0.00

AS SPECIFIED IN TABLE 5.4-34

U_{ow} = 0.20 HC >= 7

PERIMETER ZONE DAYLIGHT ACTIVATED, LIGHTING CONTROLS

VT&SC (8)

VT ≥ SC

DESIGN COMPLIANCE

ALTERNATE COMPONENT PACKAGES FOR:

HDD50 = 1-1000
CDD65 = 2001-3250
VSEW = >845
CDH80 = N/A

(1) INTERNAL LOAD RANGE

(2) SHADING COEFFICIENT

0 - 1.0	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00
1.01 - 1.5	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00
1.51 - 2.0	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00
2.01 - 2.5	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00
2.51 - 3.0	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00
3.01 - 3.5	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00

BASE CASE

PCT FENESTR			PCT FENESTR		
17	23	30	17	23	31
22	29	37	22	30	39
26	34	44	26	35	47
31	41	54	32	43	57
41	55	71	43	58	77
63	84	100	68	93	100
16	21	28	16	22	28
20	27	35	20	27	36
24	32	41	24	33	43
29	38	50	30	40	53
38	51	66	40	54	72
59	79	100	64	87	100
15	20	26	15	20	26
18	25	32	19	25	33
22	29	38	22	30	40
27	36	46	27	37	49
36	47	62	37	50	66
55	74	96	59	81	100
13	18	23	13	18	24
17	22	29	17	23	30
20	27	35	20	28	36
24	33	43	25	34	44
33	44	57	34	46	61
51	69	90	54	74	100
11	15	20	11	15	20
14	19	25	15	20	26
17	23	30	17	24	31
21	28	37	21	29	38
28	38	49	29	39	52
44	59	78	46	64	86
9	13	17	10	13	17
12	16	21	12	16	21
14	19	25	15	20	26
18	24	31	18	24	32
24	32	41	24	33	43
37	50	65	39	53	72

(4) PROJECTION FACTOR: .0 | .25 | .5 | .0 | .25 | .5

(5) U_{of}: 1.15 - 0.82 | 0.81 - 0.00

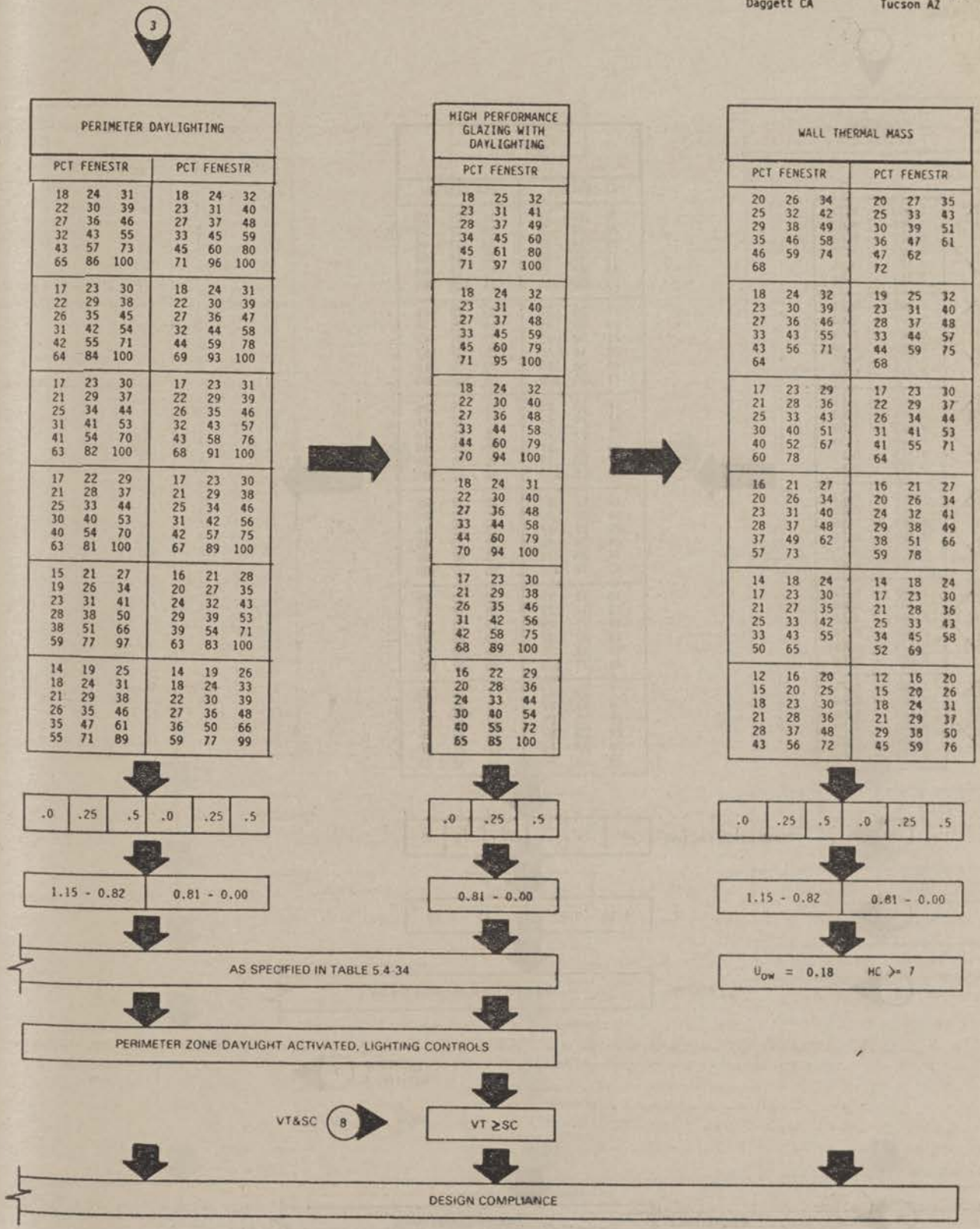
(6) U_{ow} AND HC: AS SPECIFIED IN TABLE 5.4-34

LIGHTING CONTROLS (7)

(9) COMPLIANCE: DESIGN COMPLIANCE

TABLE NUMBER: 5.A.13
INCLUDING THE FOLLOWING EXAMPLE CITIES:

China Lake CA
Daggett CA
Las Vegas NV
Tucson AZ



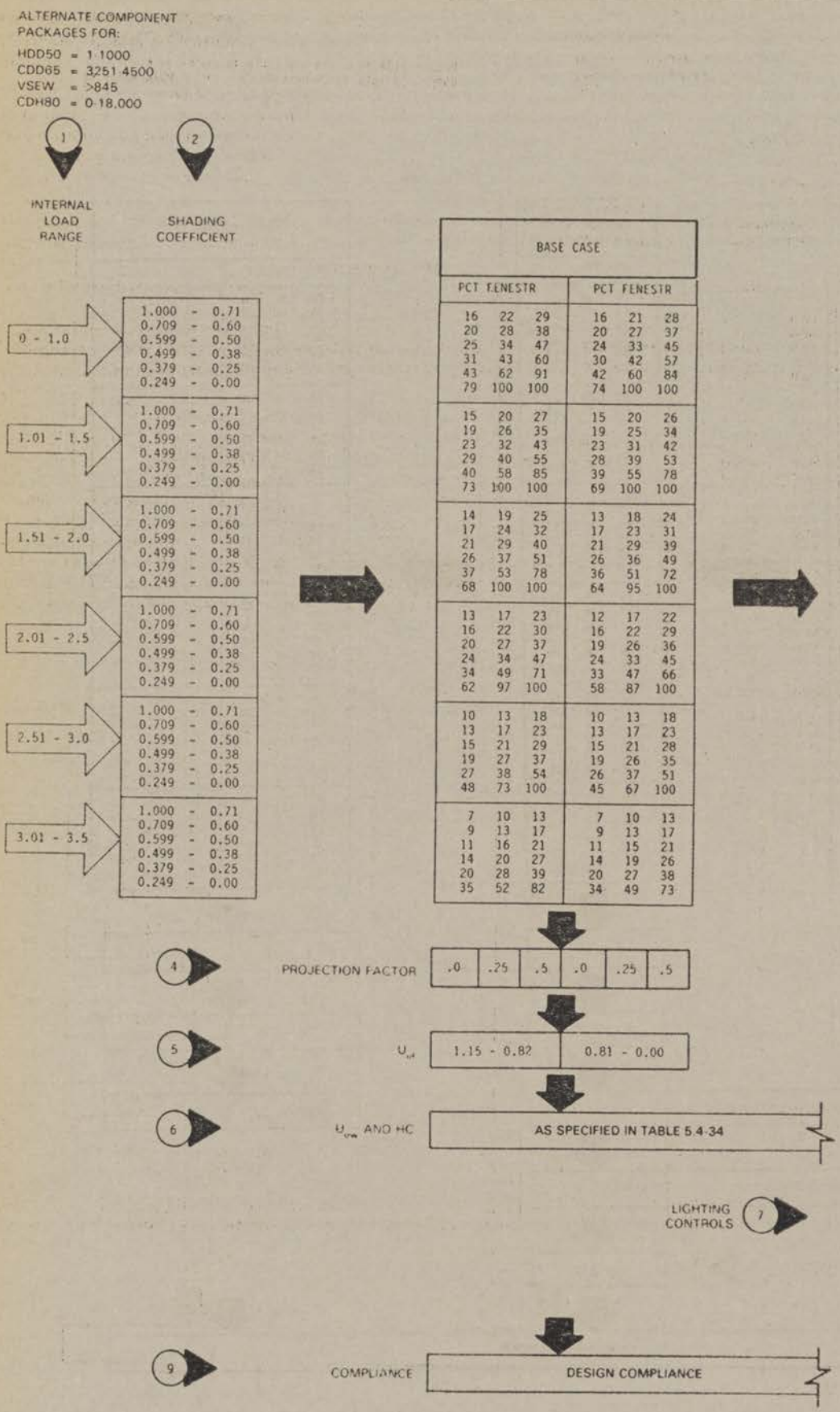
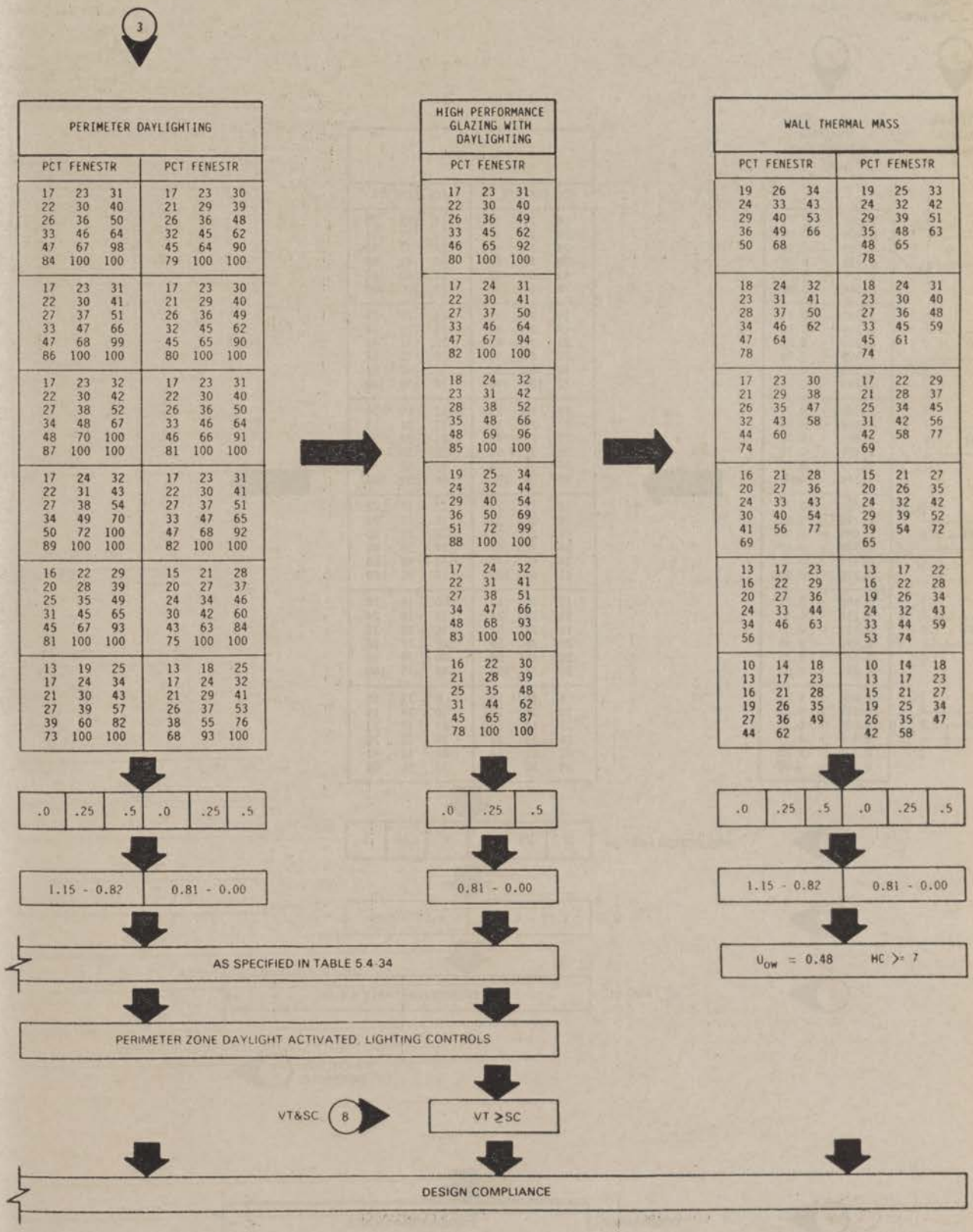

ALTERNATE COMPONENT PACKAGES FOR:
HDD50 = 1-1000
CDD65 = 3251-4500
VSEW = >845
CDH80 = 0-18,000
1
2
INTERNAL LOAD RANGE
SHADING COEFFICIENT
0 - 1.0
1.01 - 1.5
1.51 - 2.0
2.01 - 2.5
2.51 - 3.0
3.01 - 3.5
1.000 - 0.71
0.709 - 0.60
0.599 - 0.50
0.499 - 0.38
0.379 - 0.25
0.249 - 0.00
BASE CASE
PCT FENESTR
PCT FENESTR
16 22 29 16 21 28
20 28 38 20 27 37
25 34 47 24 33 45
31 43 60 30 42 57
43 62 91 42 60 84
79 100 100 74 100 100
15 20 27 15 20 26
19 26 35 19 25 34
23 32 43 23 31 42
29 40 55 28 39 53
40 58 85 39 55 78
73 100 100 69 100 100
14 19 25 13 18 24
17 24 32 17 23 31
21 29 40 21 29 39
26 37 51 26 36 49
37 53 78 36 51 72
68 100 100 64 95 100
13 17 23 12 17 22
16 22 30 16 22 29
20 27 37 19 26 36
24 34 47 24 33 45
34 49 71 33 47 66
62 97 100 58 87 100
10 13 18 10 13 18
13 17 23 13 17 23
15 21 29 15 21 28
19 27 37 19 26 35
27 38 54 26 37 51
48 73 100 45 67 100
7 10 13 7 10 13
9 13 17 9 13 17
11 16 21 11 15 21
14 20 27 14 19 26
20 28 39 20 27 38
35 52 82 34 49 73
4
PROJECTION FACTOR
.0 .25 .5 .0 .25 .5
5
U_{wf}
1.15 - 0.82
0.81 - 0.00
6
U_{ow} AND HC
AS SPECIFIED IN TABLE 5.4-34
LIGHTING CONTROLS
7
9
COMPLIANCE
DESIGN COMPLIANCE

TABLE NUMBER: 5.A-14
INCLUDING THE FOLLOWING EXAMPLE CITIES:

Brownsville TX, Corpus Christi TX, Kingsville TX, Miami FL, Orlando FL, West Palm Beach FL



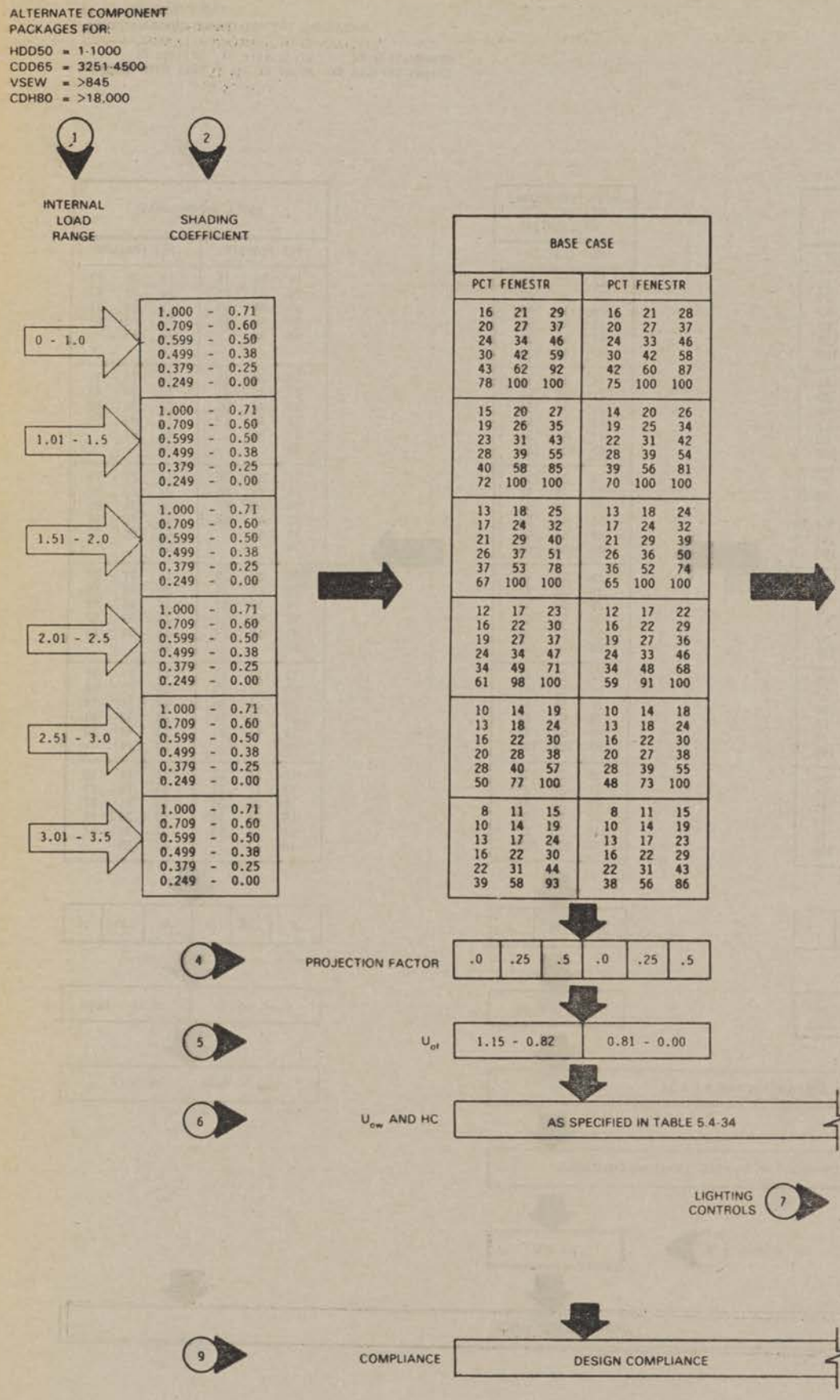
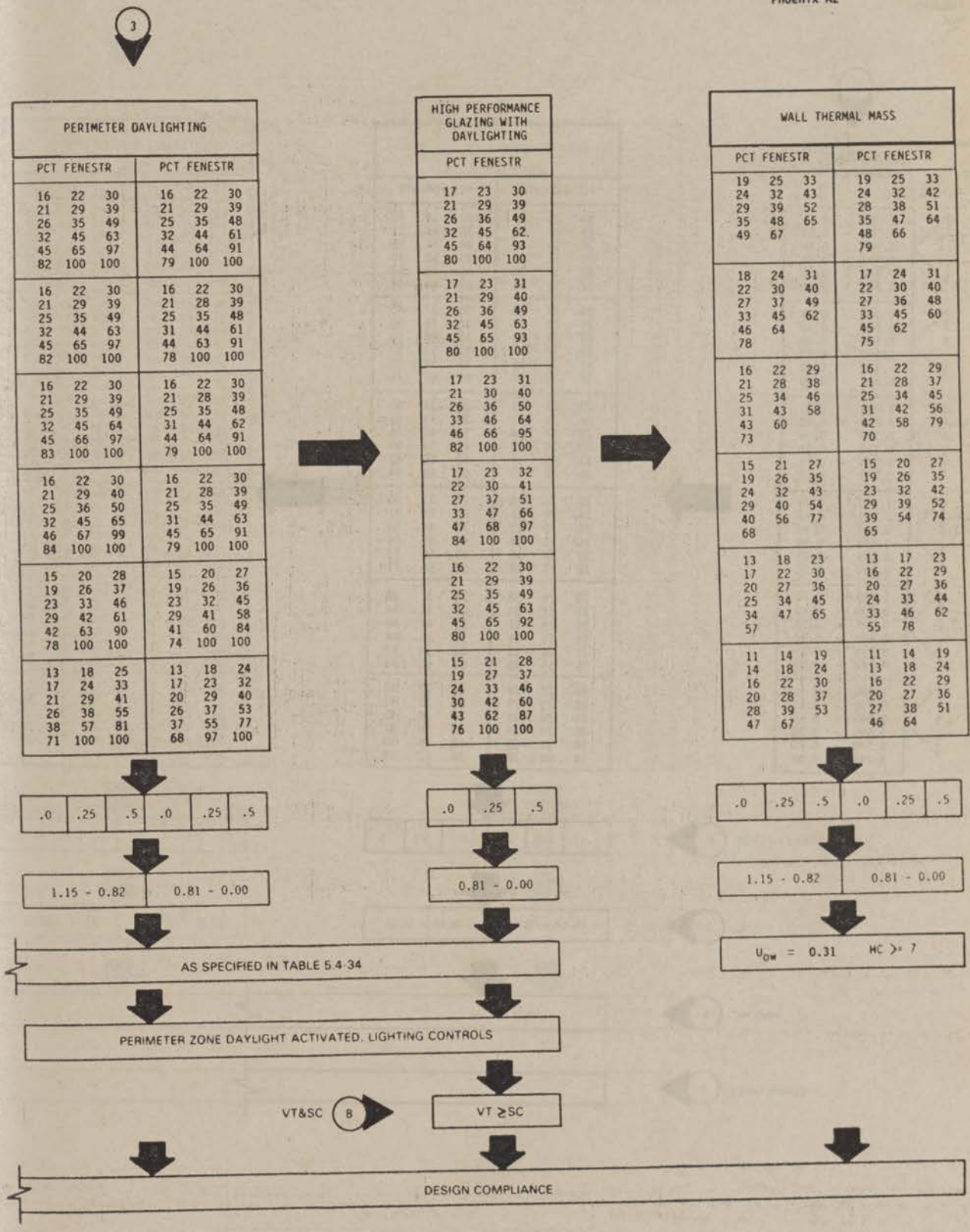

ALTERNATE COMPONENT PACKAGES FOR:
HDD50 = 1-1000
CDD65 = 3251-4500
VSEW = >845
CDH80 = >18,000
1
2
INTERNAL LOAD RANGE
SHADING COEFFICIENT
0 - 1.0
1.01 - 1.5
1.51 - 2.0
2.01 - 2.5
2.51 - 3.0
3.01 - 3.5
1.000 - 0.71
0.709 - 0.60
0.599 - 0.50
0.499 - 0.38
0.379 - 0.25
0.249 - 0.00
BASE CASE
PCT FENESTR
PCT FENESTR
16 21 29 16 21 28
20 27 37 20 27 37
24 34 46 24 33 46
30 42 59 30 42 58
43 62 92 42 60 87
78 100 100 75 100 100
15 20 27 14 20 26
19 26 35 19 25 34
23 31 43 22 31 42
28 39 55 28 39 54
40 58 85 39 56 81
72 100 100 70 100 100
13 18 25 13 18 24
17 24 32 17 24 32
21 29 40 21 29 39
26 37 51 26 36 50
37 53 78 36 52 74
67 100 100 65 100 100
12 17 23 12 17 22
16 22 30 16 22 29
19 27 37 19 27 36
24 34 47 24 33 46
34 49 71 34 48 68
61 98 100 59 91 100
10 14 19 10 14 18
13 18 24 13 18 24
16 22 30 16 22 30
20 28 38 20 27 38
28 40 57 28 39 55
50 77 100 48 73 100
8 11 15 8 11 15
10 14 19 10 14 19
13 17 24 13 17 23
16 22 30 16 22 29
22 31 44 22 31 43
39 58 93 38 56 86
4
PROJECTION FACTOR
.0 .25 .5 .0 .25 .5
5
U_{of}
1.15 - 0.82
0.81 - 0.00
6
U_{ow} AND HC
AS SPECIFIED IN TABLE 5.4-34
LIGHTING CONTROLS
7
9
COMPLIANCE
DESIGN COMPLIANCE

TABLE NUMBER: 5.A.15
INCLUDING THE FOLLOWING EXAMPLE CITIES:

Laredo TX
Phoenix AZ
Yuma AZ



ALTERNATE COMPONENT
PACKAGES FOR:

HDD50 = 1001-1750
CDD65 = 0-500
VSEW = 560-845
CDH80 = N/A

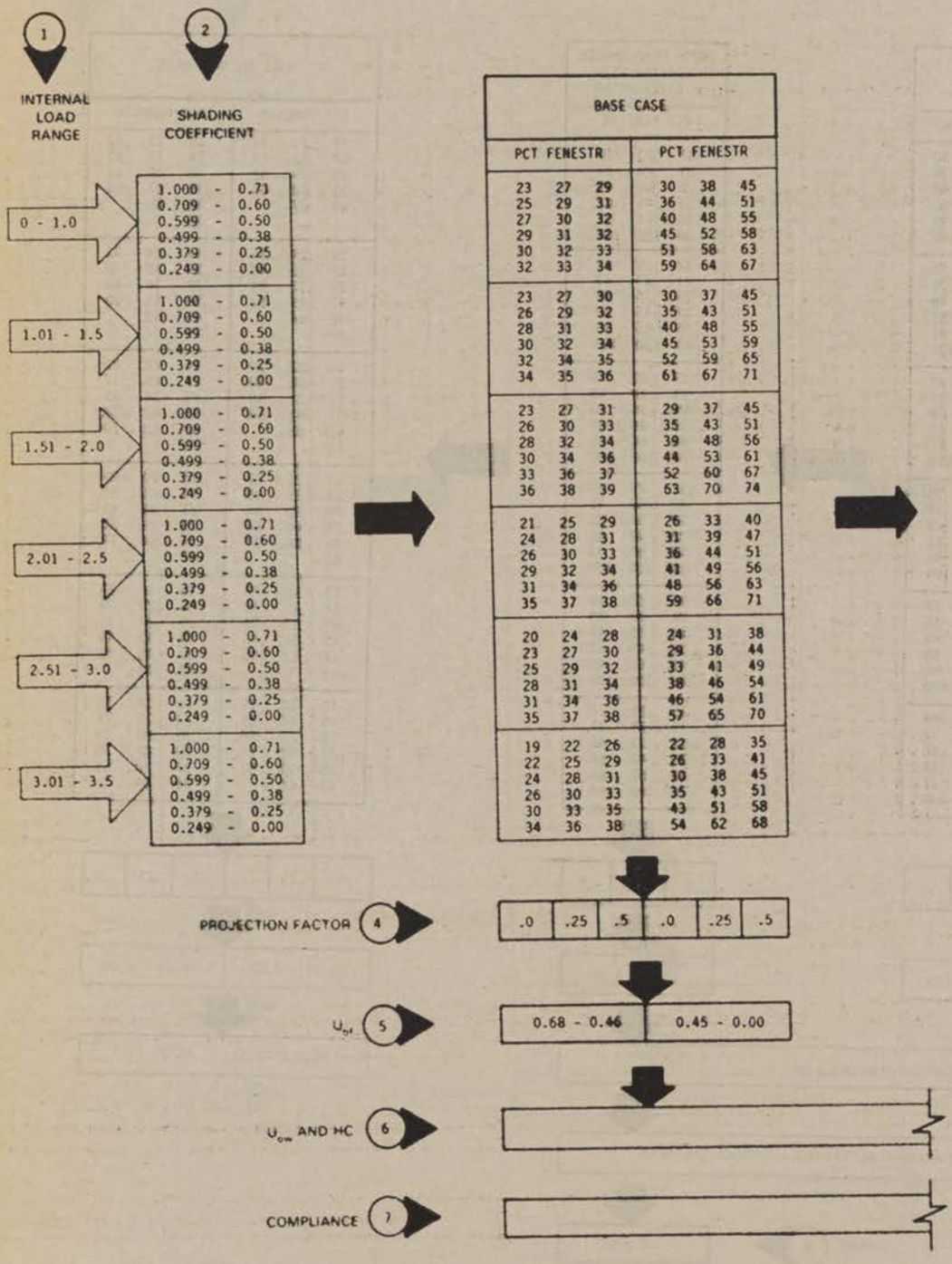


TABLE NUMBER: 5.A-16

INCLUDING THE FOLLOWING EXAMPLE CITIES:

Astoria OR
Olympia WA
Portland OR
Salem OR
Seattle/Tacoma WA
Whidbey Island WA

3

HIGH PERFORMANCE GLAZING					
PCT FENESTR			PCT FENESTR		
32	41	50	59	74	89
38	48	57	69	85	100
43	53	62	77	92	100
49	59	68	87	100	100
58	67	75	89	100	100
70	77	82	100	100	100
31	40	49	57	73	88
37	47	56	68	84	100
43	53	62	76	92	100
49	59	68	87	100	100
58	68	76	89	100	100
71	80	86	100	100	100
30	39	48	56	71	87
36	46	56	67	84	99
42	52	62	75	92	100
48	59	69	87	100	100
58	69	78	99	100	100
73	82	89	100	100	100
27	35	43	51	64	79
33	42	51	61	76	91
38	47	57	68	84	99
44	54	63	79	95	100
53	63	73	81	98	100
68	77	85	100	100	100
25	32	40	47	60	74
30	39	48	56	71	86
35	44	54	63	79	94
41	51	60	74	91	100
50	60	70	76	93	100
65	75	83	100	100	100
22	29	37	42	54	68
27	35	44	51	65	79
32	40	49	58	73	88
37	47	56	68	84	99
46	56	66	70	86	100
61	71	79	100	100	100

WALL THERMAL MASS					
PCT FENESTR			PCT FENESTR		
26	29	32	33	41	49
28	32	34	39	47	54
30	33	35	43	51	58
32	34	35	48	56	62
33	35	36	55	61	66
35	36	37	63	67	70
26	30	33	33	41	49
29	32	35	38	47	55
31	34	36	43	52	59
33	36	37	48	56	63
35	37	38	55	63	68
37	39	39	65	70	73
26	31	34	32	40	48
29	33	37	38	47	55
32	35	38	43	52	59
34	37	39	48	57	64
37	39	41	56	64	70
40	41	42	67	73	77
24	29	33	29	37	45
28	32	35	35	43	51
30	34	37	40	48	56
32	36	38	45	53	60
35	38	40	53	60	67
39	41	42	63	70	74
23	28	32	27	35	42
27	31	35	33	41	49
29	33	36	37	46	54
32	35	38	43	51	59
35	38	40	51	59	65
39	41	43	62	69	74
22	26	30	25	32	39
25	30	33	30	38	46
28	32	36	35	43	51
31	34	38	40	48	56
34	38	40	48	56	63
39	41	43	60	67	72

.0	.25	.5	.0	.25	.5

0.38 - 0.29	0.28 - 0.00

.0	.25	.5	.0	.25	.5

0.68 - 0.46	0.45 - 0.00

U_{ow} = 0.10 HC $\geq$ 7

ALTERNATE COMPONENT PACKAGES FOR:

HDD50 = 1-1750
CDD65 = 501-1150
VSEW = 560-845
CDH80 = N/A

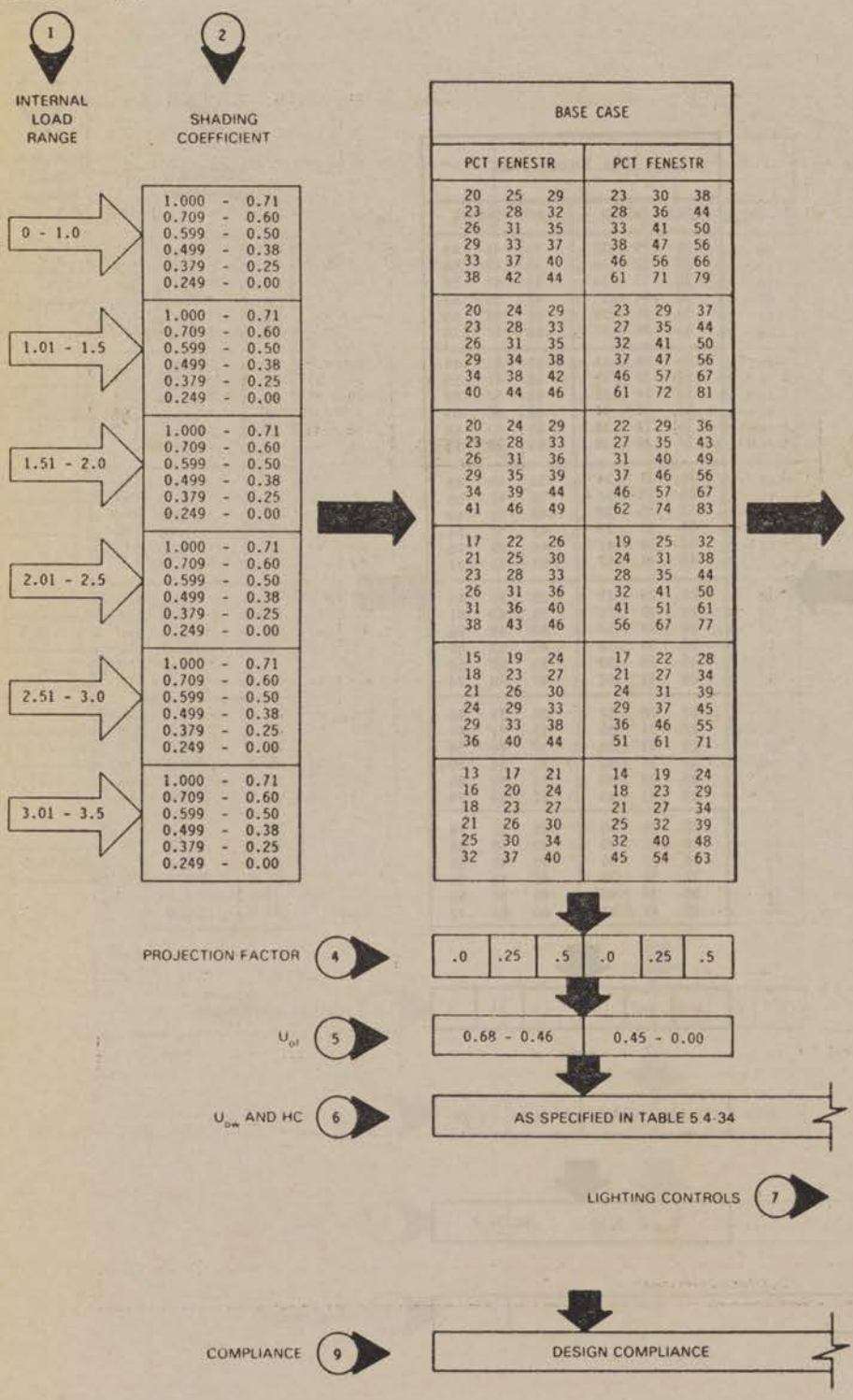
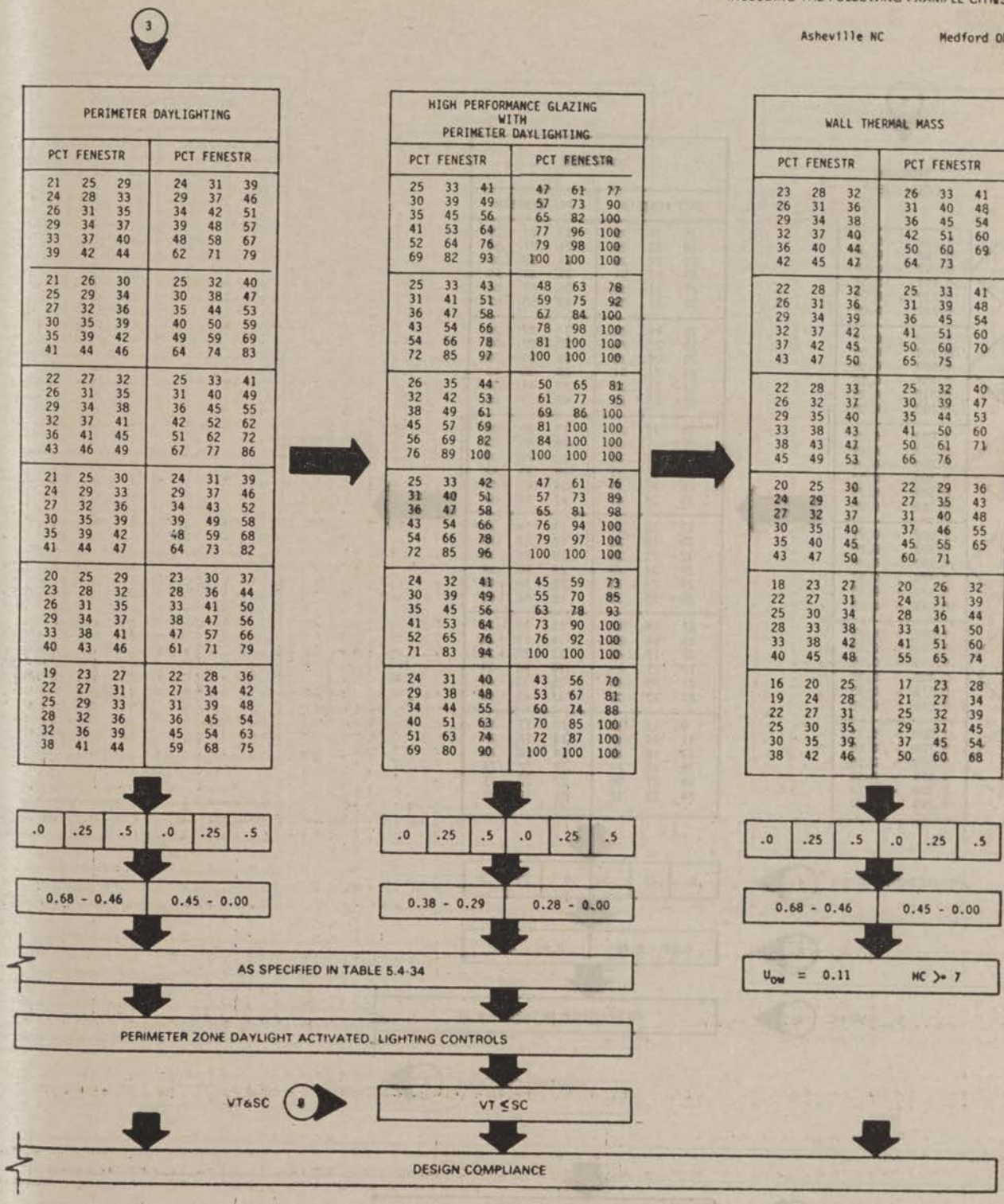


TABLE NUMBER: 5.A-17
INCLUDING THE FOLLOWING EXAMPLE CITIES:

Asheville NC Medford OR



ALTERNATE COMPONENT PACKAGES FOR:

HDD50 = 1001-1750
CDD65 = 1-1150
VSEW = >845
CDH80 = N/A

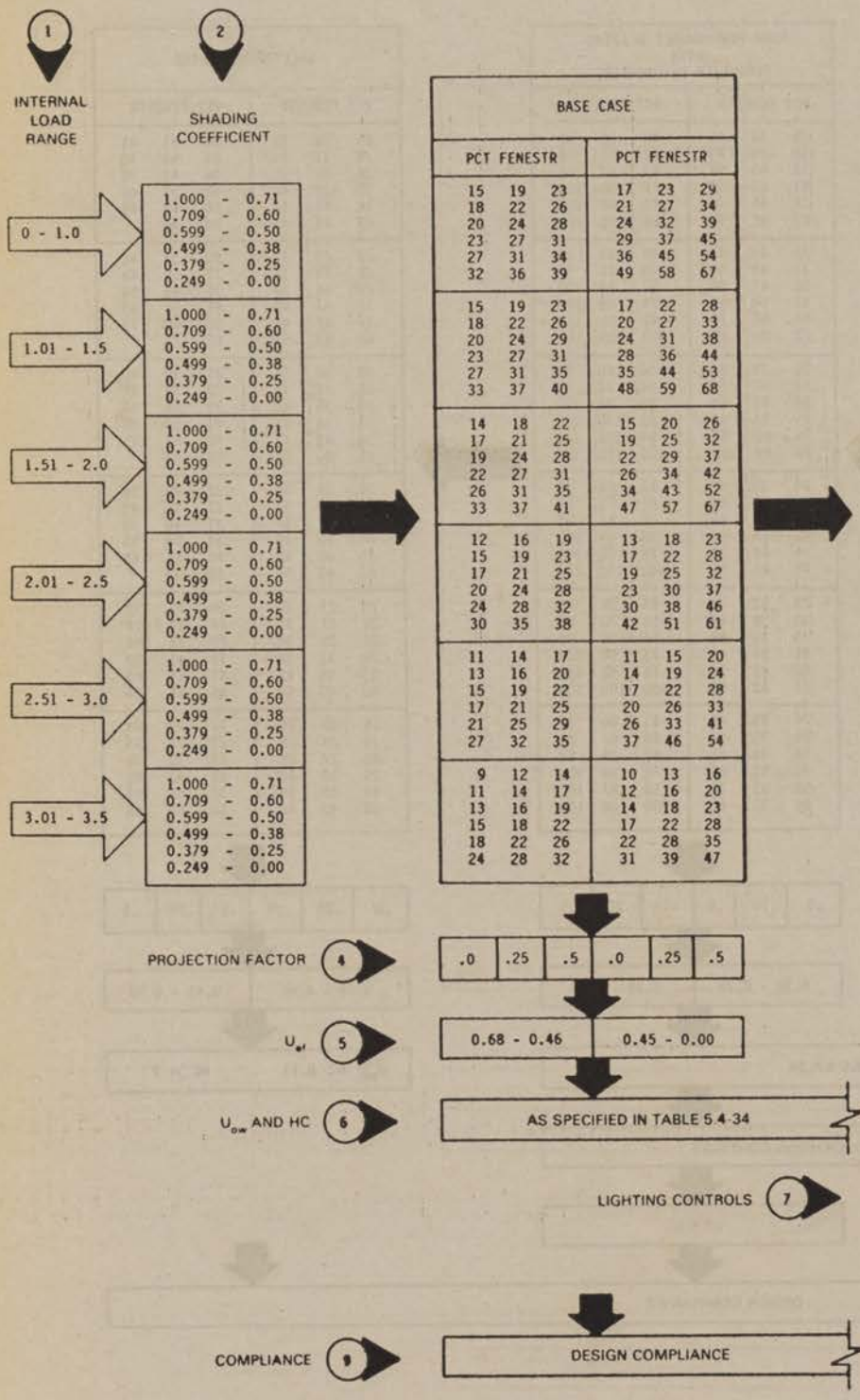
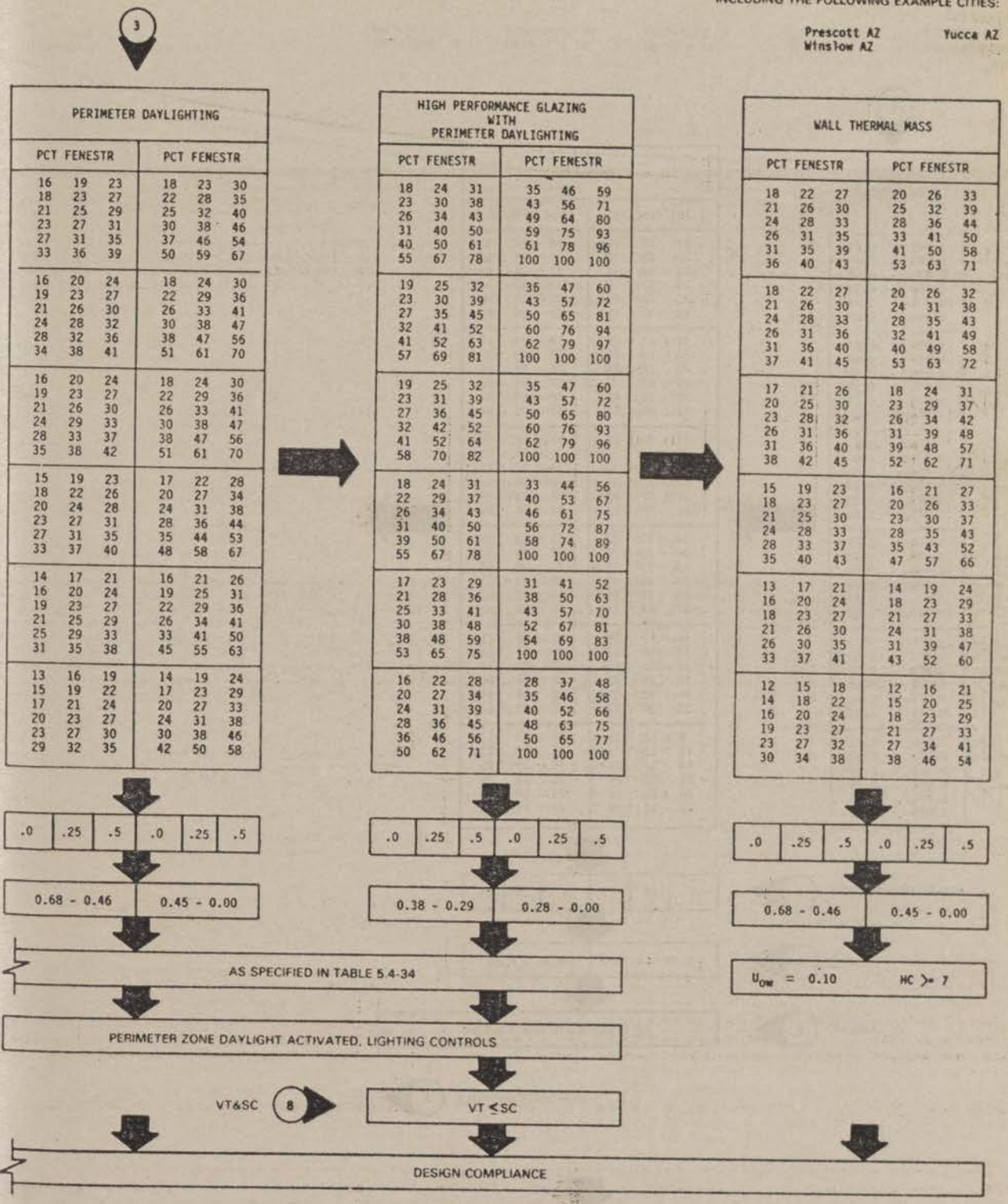


TABLE NUMBER: 5.A.18
INCLUDING THE FOLLOWING EXAMPLE CITIES:

Prescott AZ
Winslow AZ

Yucca AZ



ALTERNATE COMPONENT PACKAGES FOR:

HDD50 = 1001-1750
CDD65 = 1151-2000
VSEW = 560-845
CDH80 = N/A

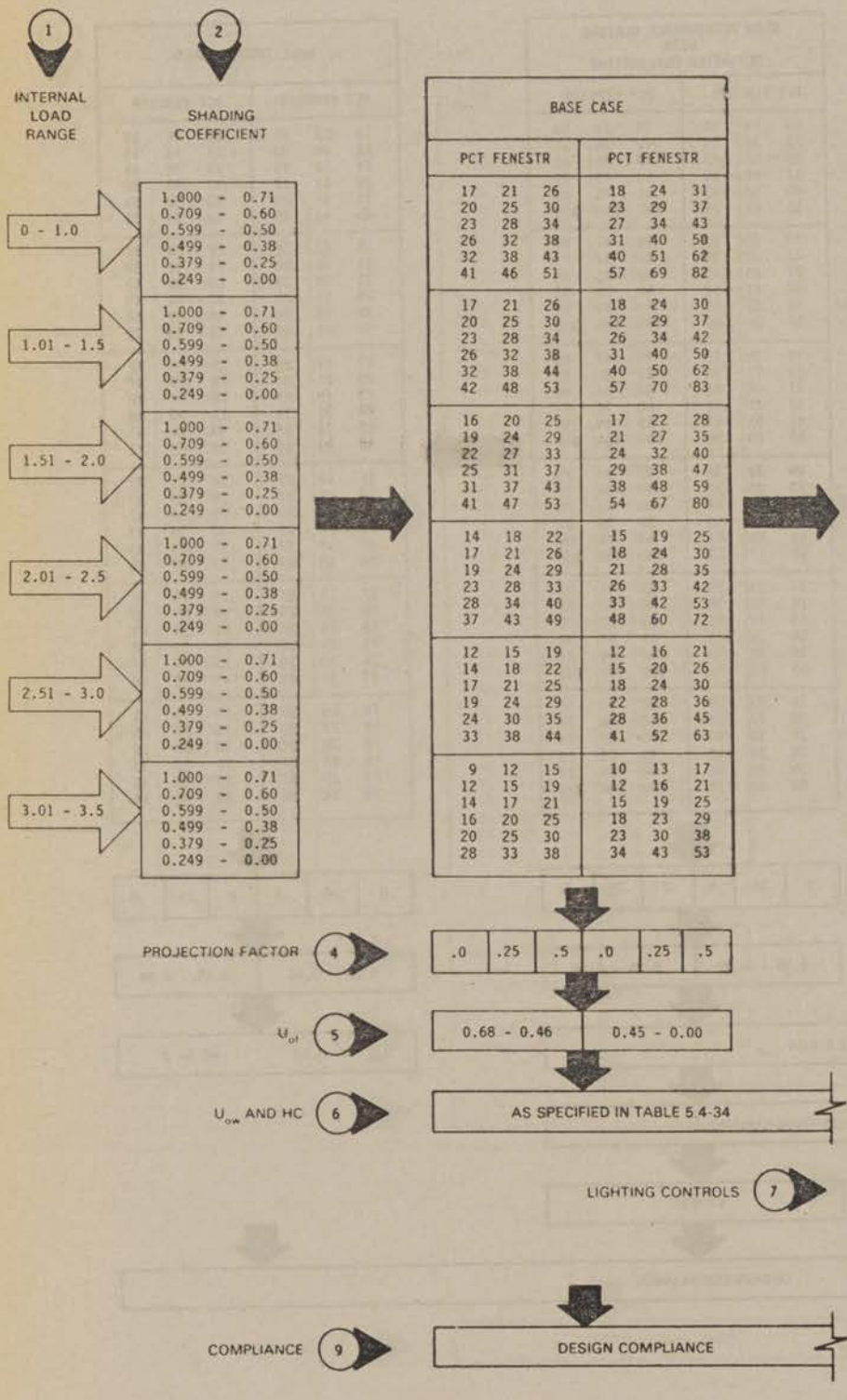


TABLE NUMBER: 5.A-19
INCLUDING THE FOLLOWING EXAMPLE CITIES:

Charlotte NC, Chattanooga TN, Greensboro NC, Knoxville TN, Nashville TN, Norfolk VA, Patuxent MD, Raleigh NC, Richmond VA, Roanoke VA

(3)

PERIMETER DAYLIGHTING					
PCT FENESTR			PCT FENESTR		
17	22	27	19	25	32
21	26	31	24	31	39
24	29	35	28	36	45
27	33	38	33	42	52
33	39	44	42	53	64
42	47	52	59	71	83
18	23	28	20	26	33
22	27	33	24	32	40
25	31	36	29	37	47
29	34	40	34	44	54
34	41	46	43	55	66
44	49	54	61	74	87
18	23	28	20	26	33
22	27	33	25	32	41
25	31	37	29	37	47
29	35	41	34	44	55
35	41	47	44	55	67
44	50	55	62	74	87
17	22	27	19	25	32
21	26	31	23	30	38
24	29	35	27	36	45
27	33	39	33	42	52
33	39	45	42	53	64
42	48	53	59	71	83
16	21	25	18	23	30
19	24	29	22	28	36
22	27	32	26	33	41
26	31	36	30	39	48
31	37	42	39	49	60
40	45	50	55	67	77
15	19	23	16	21	27
18	22	27	20	26	33
20	25	30	23	30	38
23	28	33	28	36	44
28	33	38	36	45	55
36	41	46	50	62	71

HIGH PERFORMANCE GLAZING WITH PERIMETER DAYLIGHTING					
PCT FENESTR			PCT FENESTR		
20	26	34	38	50	64
24	32	41	47	61	78
29	38	48	54	70	88
34	44	56	65	84	100
44	57	70	68	87	100
64	79	94	100	100	100
21	27	35	39	51	66
26	34	43	48	63	80
30	39	50	56	72	90
36	47	59	67	86	100
46	60	73	70	89	100
67	83	98	100	100	100
21	28	36	39	52	66
26	34	44	49	64	80
31	40	51	56	72	90
37	48	60	68	86	100
47	61	74	70	89	100
68	84	99	100	100	100
20	27	34	37	49	63
25	33	42	46	61	76
30	39	49	53	69	85
36	46	58	65	81	100
46	59	72	67	84	100
67	81	95	100	100	100
19	26	33	35	46	59
24	32	40	43	57	71
28	37	47	50	65	79
34	44	56	60	76	92
44	57	69	63	78	95
64	77	90	100	100	100
18	24	31	32	42	54
23	30	38	39	52	66
27	35	45	45	60	73
32	42	53	55	70	84
42	54	66	57	72	86
61	73	85	100	100	100

WALL THERMAL MASS					
PCT FENESTR			PCT FENESTR		
19	24	29	20	27	34
22	28	33	25	32	40
26	31	37	29	37	46
29	35	41	34	44	53
35	41	46	43	54	65
44	49	54	60	72	
19	23	29	20	26	33
22	28	33	25	32	40
25	31	37	29	37	46
29	35	41	34	43	53
35	42	47	43	54	65
45	51	56	60	72	
18	22	28	19	25	31
21	27	32	23	30	38
24	30	36	27	35	44
28	34	40	32	41	51
34	41	47	41	52	63
44	51	56	58	70	
16	20	25	17	22	28
19	24	29	21	27	34
22	27	33	24	31	39
26	31	37	29	37	46
31	38	43	37	46	57
41	47	53	52	64	75
14	18	22	14	19	24
17	21	26	18	23	29
19	24	29	21	27	34
22	28	33	25	32	40
28	34	39	32	41	50
37	43	48	46	57	67
12	15	19	12	16	20
14	18	22	15	19	25
16	21	25	18	23	29
19	24	29	21	27	34
24	29	34	27	35	43
32	38	43	39	49	58

.0	.25	.5	.0	.25	.5

0.68 - 0.46	0.45 - 0.00

.0	.25	.5	.0	.25	.5

0.38 - 0.29	0.28 - 0.00

.0	.25	.5	.0	.25	.5

0.68 - 0.46	0.45 - 0.00

AS SPECIFIED IN TABLE 5.4-34

U_{OW} = 0.12 HC >= 7

PERIMETER ZONE DAYLIGHT ACTIVATED, LIGHTING CONTROLS

VT&SC (8) VT ≤ SC

DESIGN COMPLIANCE

ALTERNATE COMPONENT PACKAGES FOR:

HDD50 = 1001-1750
CDD65 = 1151-2000
VSEW = >845
CDH80 = N/A

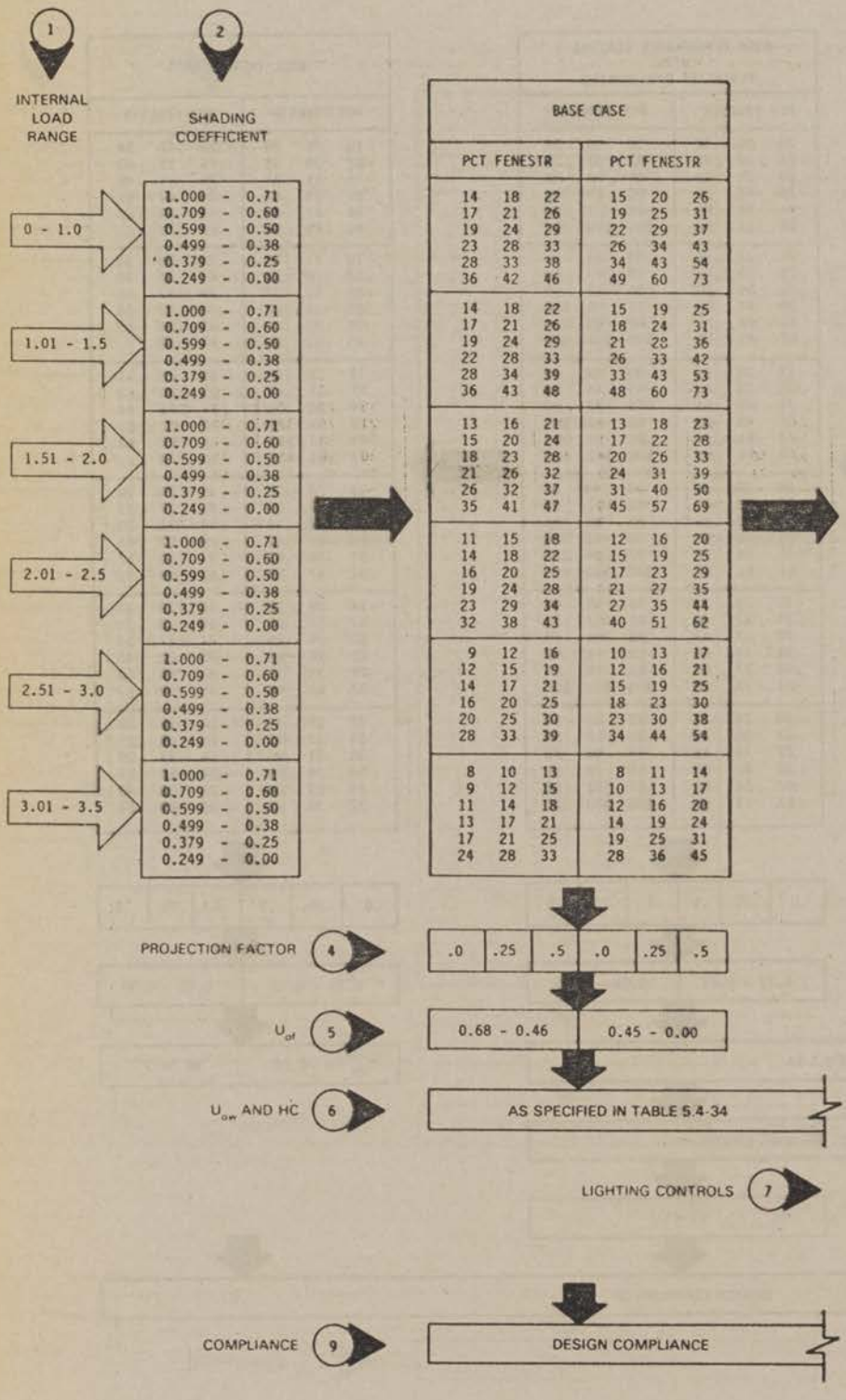


TABLE NUMBER: 5.A-20
INCLUDING THE FOLLOWING EXAMPLE CITIES:

Albuquerque NM, Amarillo TX, Lubbock TX, Oklahoma City OK, Roswell NM, Truth or Consequences NM, Tucumcari NM

(3)

PERIMETER DAYLIGHTING					
PCT FENESTR			PCT FENESTR		
14	19	23	16	21	27
17	22	27	19	26	33
20	25	30	23	30	38
23	29	34	27	35	44
28	34	39	35	45	55
37	42	47	50	62	74
15	19	24	16	21	28
18	23	28	20	26	34
21	26	31	23	31	39
24	30	35	28	36	46
29	35	41	36	46	57
38	44	49	52	64	76
15	19	23	16	21	27
18	22	27	19	26	33
20	25	31	23	30	38
24	29	34	27	36	45
29	35	40	35	45	56
38	44	49	51	63	75
14	18	22	15	20	25
17	21	26	18	24	31
19	24	29	22	28	36
22	28	33	26	34	42
27	33	38	33	43	53
36	42	47	48	60	72
13	16	20	13	18	23
15	19	24	17	22	28
18	22	27	20	26	33
20	25	30	24	31	39
25	30	35	31	39	49
33	39	43	44	56	67
11	14	18	12	16	21
14	17	21	15	20	25
16	20	24	18	23	30
18	23	27	21	28	35
23	27	32	27	35	44
30	35	39	40	50	60

HIGH PERFORMANCE GLAZING WITH PERIMETER DAYLIGHTING					
PCT FENESTR			PCT FENESTR		
16	22	28	31	41	54
20	27	34	38	51	66
24	31	40	44	59	75
28	37	47	54	71	91
37	48	60	56	74	94
54	68	83	100	100	100
17	22	29	32	42	55
21	28	36	39	52	68
25	32	42	46	60	77
29	39	49	56	73	92
38	50	63	58	76	95
56	71	86	100	100	100
17	22	29	31	41	54
21	27	35	38	51	66
24	32	42	45	59	75
29	39	49	55	71	90
38	50	62	57	74	93
56	71	85	100	100	100
16	21	28	29	39	51
20	27	34	36	49	63
24	31	40	42	56	71
28	37	48	52	68	84
37	48	60	54	70	87
55	69	82	100	100	100
15	20	26	27	36	47
19	25	32	33	45	58
22	30	38	39	51	66
27	35	45	47	63	78
35	46	57	49	65	80
52	65	78	100	100	100
14	19	24	24	32	42
18	23	30	30	40	52
21	28	35	34	46	59
25	33	42	42	56	71
33	43	53	44	59	73
48	61	73	100	100	100

WALL THERMAL MASS					
PCT FENESTR			PCT FENESTR		
16	21	26	18	23	29
20	25	30	22	28	36
22	28	33	25	33	41
26	31	37	30	38	47
31	37	43	38	48	58
40	46	50	53	64	76
16	21	25	17	23	29
19	24	30	21	28	35
22	28	33	25	32	40
26	32	37	29	38	47
31	38	43	37	47	58
41	47	52	53	65	76
15	19	24	16	21	27
18	23	28	20	26	32
21	26	32	23	30	38
24	30	36	27	35	44
30	36	42	35	44	55
39	45	51	50	61	73
13	17	22	14	19	24
16	21	26	17	23	29
19	24	29	21	27	34
22	27	33	24	32	40
27	33	39	32	40	50
36	43	48	45	56	67
12	15	19	12	16	21
14	18	23	15	20	25
17	21	26	18	23	29
19	24	29	21	28	35
24	30	35	27	35	44
33	39	44	40	50	60
10	13	16	10	13	17
12	16	19	13	17	21
14	18	22	15	20	25
17	21	25	18	23	29
21	26	31	23	30	37
29	34	39	34	43	52

.0	.25	.5	.0	.25	.5

0.68 - 0.46	0.45 - 0.00

.0	.25	.5	.0	.25	.5

0.38 - 0.29	0.28 - 0.00

.0	.25	.5	.0	.25	.5

0.68 - 0.46	0.45 - 0.00

AS SPECIFIED IN TABLE 5.4-34

U_{ow} = 0.12 HC >= 7

PERIMETER ZONE DAYLIGHT ACTIVATED, LIGHTING CONTROLS

VT&SC (8) VT ≤ SC

DESIGN COMPLIANCE

ALTERNATE COMPONENT PACKAGES FOR:

HDD50 = 1001-1750
CDD65 = 2001-3250
VSEW = 560-845
CDH80 = N/A

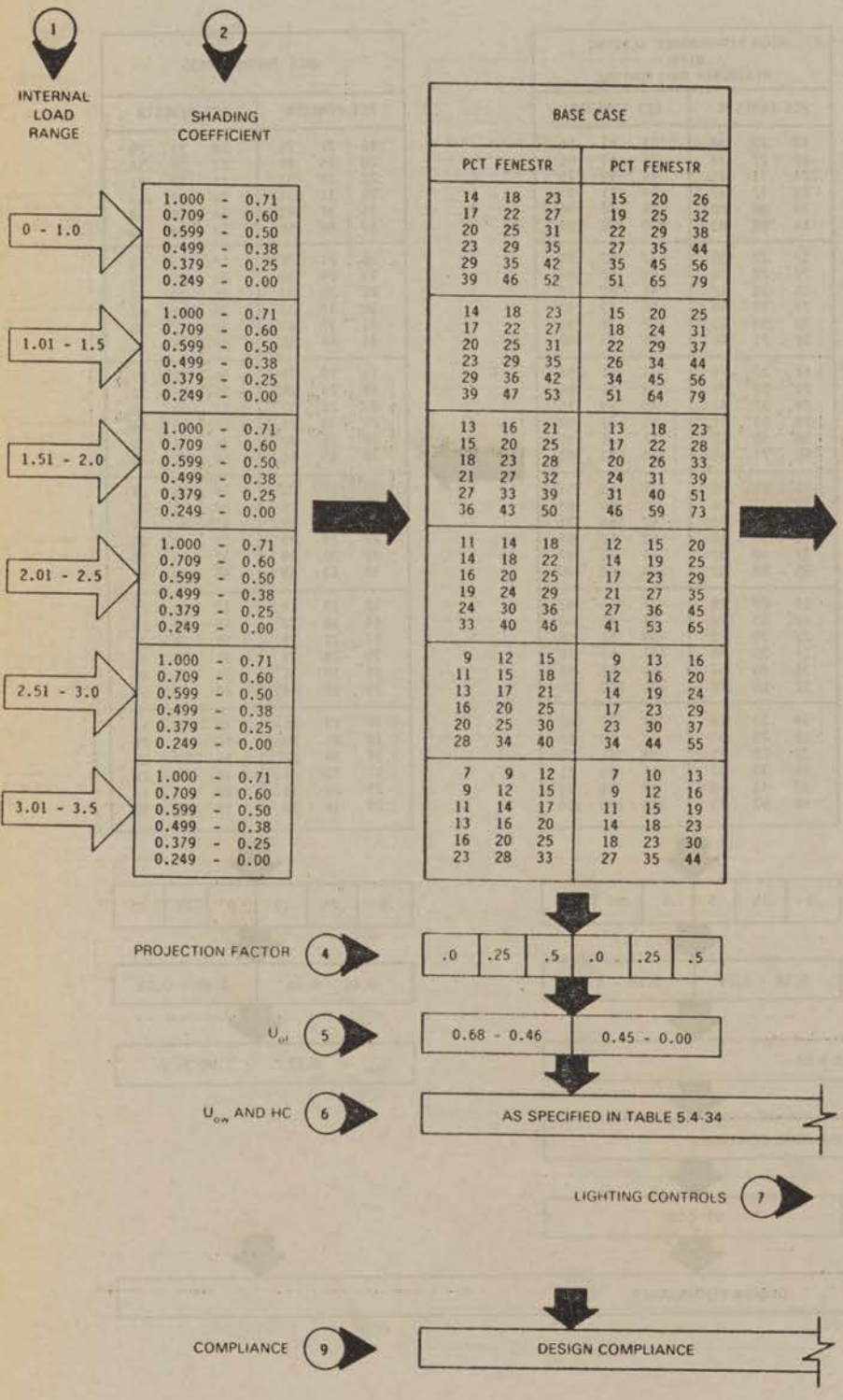


TABLE NUMBER: 5.A.21
INCLUDING THE FOLLOWING EXAMPLE CITIES:

Forth Smith AR Tulsa OK
Memphis TN

(3)

PERIMETER DAYLIGHTING												
PCT FENESTR						PCT FENESTR					
15	19	24				16	21	27			
18	23	28				20	26	34			
21	26	32				24	31	39			
24	30	36				28	37	46			
30	36	43				37	47	59			
40	47	53				53	67	81			
15	20	25				17	22	28			
19	24	29				21	27	35			
22	27	33				24	32	41			
25	31	38				29	38	48			
31	38	45				38	49	61			
42	49	55				56	70	84			
15	19	24				16	21	27			
18	23	28				20	26	33			
21	26	32				23	31	39			
24	30	36				28	37	46			
30	37	43				37	47	59			
40	47	54				54	67	81			
14	18	23				15	20	26			
17	22	27				19	25	32			
20	25	31				22	29	37			
23	29	35				27	35	44			
29	35	41				35	45	56			
39	46	52				52	65	77			
13	16	21				14	18	23			
16	20	24				17	22	29			
18	23	28				20	27	34			
21	26	32				24	32	40			
26	32	38				32	41	51			
35	41	47				47	59	71			
11	14	18				12	16	20			
14	17	21				15	20	25			
16	20	24				18	23	30			
18	23	28				21	28	35			
23	28	33				28	36	45			
31	37	42				41	52	63			

HIGH PERFORMANCE GLAZING WITH PERIMETER DAYLIGHTING												
PCT FENESTR						PCT FENESTR					
16	22	28				32	42	55			
20	27	35				40	53	69			
24	32	41				46	61	79			
29	38	49				57	75	96			
38	50	63				59	78	100			
57	73	90				100	100	100			
17	23	30				33	44	57			
22	29	37				41	55	71			
26	34	43				48	64	81			
31	40	52				59	77	99			
40	53	67				61	80	100			
61	77	94				100	100	100			
17	23	29				32	42	55			
21	28	36				40	53	68			
25	33	43				46	61	78			
30	40	51				57	74	94			
40	52	66				59	77	97			
60	75	92				100	100	100			
17	22	28				30	40	53			
21	27	35				38	50	66			
25	32	42				44	59	74			
30	39	50				54	71	89			
39	51	64				57	74	92			
59	74	89				100	100	100			
15	21	27				27	36	48			
19	26	33				34	46	60			
23	30	39				40	53	68			
28	37	47				49	65	81			
37	48	61				51	68	83			
55	70	83				100	100	100			
14	19	25				24	32	42			
18	24	31				30	40	52			
21	28	36				35	47	61			
26	34	43				43	58	72			
34	44	56				45	60	74			
51	65	77				100	100	100			

WALL THERMAL MASS												
PCT FENESTR						PCT FENESTR					
16	21	26				18	23	29			
20	25	31				22	28	36			
23	29	34				25	33	41			
27	33	39				30	39	48			
33	39	45				39	49	60			
43	49	55				55	68				
16	21	26				17	23	29			
20	25	31				21	28	35			
23	29	34				25	32	41			
26	33	39				30	38	48			
33	40	46				38	49	60			
43	50	57				55	68				
15	19	24				15	20	26			
18	23	28				19	25	32			
21	26	32				23	30	37			
24	30	36				27	35	44			
30	37	43				35	45	55			
41	48	54				51	63	76			
13	17	21				14	18	23			
16	21	26				17	22	29			
19	24	29				20	26	34			
22	28	33				24	31	40			
28	34	40				31	40	50			
38	45	51				46	57	70			
11	15	18				12	15	20			
14	18	22				14	19	24			
16	21	25				17	22	28			
19	24	29				21	27	34			
24	30	35				27	34	43			
33	39	45				39	50	60			
9	12	15				10	13	16			
11	15	18				12	16	20			
13	17	21				14	18	23			
16	20	24				17	22	28			
20	25	30				22	29	36			
28	34	39				33	42	51			

.0	.25	.5	.0	.25	.5

0.68 - 0.46	0.45 - 0.00

.0	.25	.5	.0	.25	.5

0.38 - 0.29	0.28 - 0.00

.0	.25	.5	.0	.25	.5

0.68 - 0.46	0.45 - 0.00

AS SPECIFIED IN TABLE 5.4-34

U_{ow} = 0.13 HC >= 7

PERIMETER ZONE DAYLIGHT ACTIVATED LIGHTING CONTROLS

VT&SC (8) VT ≤ SC

DESIGN COMPLIANCE

ALTERNATE COMPONENT PACKAGES FOR:

HDD50 = 1751-2600
CDD65 = 0-1150
VSEW = 560-845
CDH80 = N/A

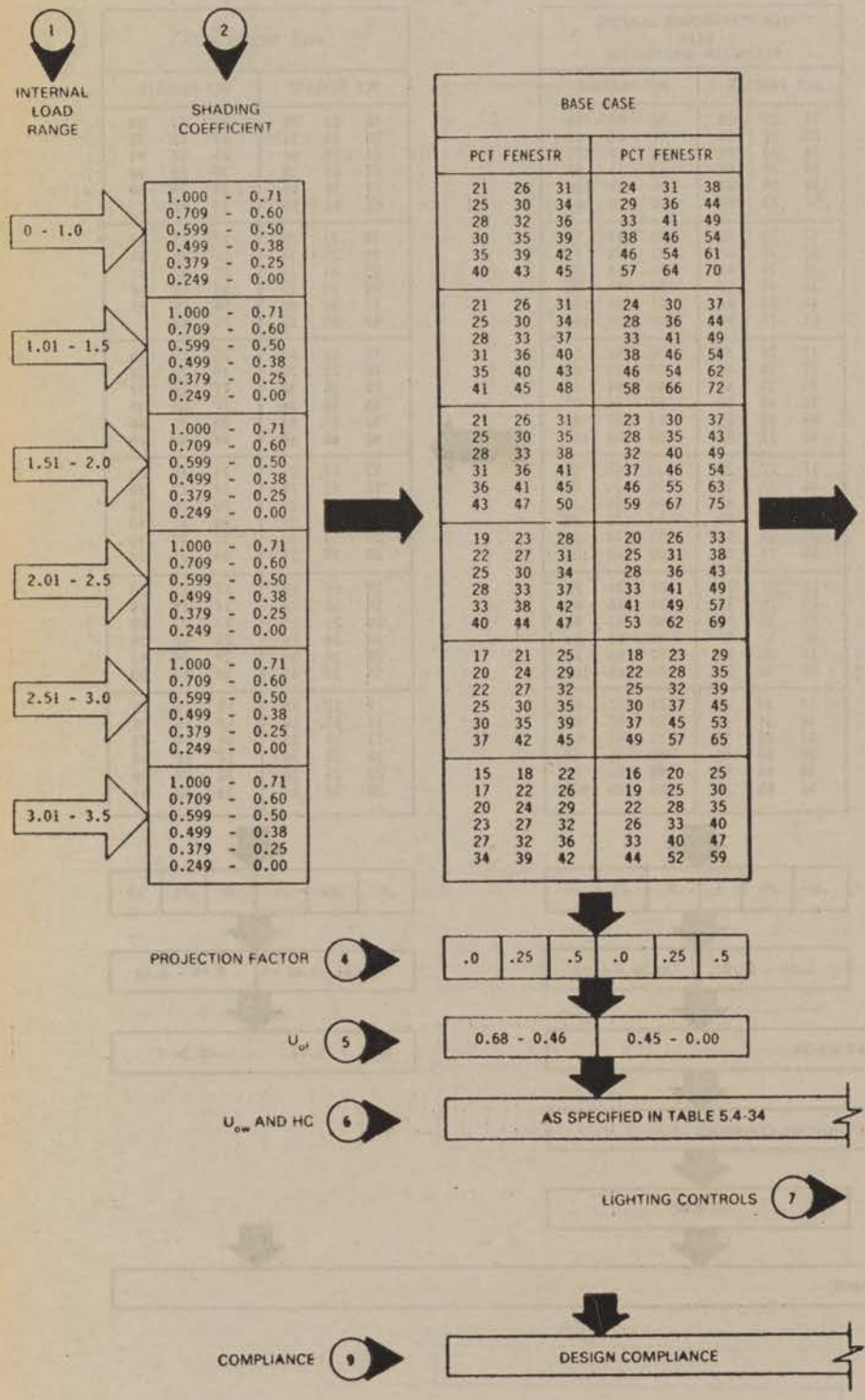
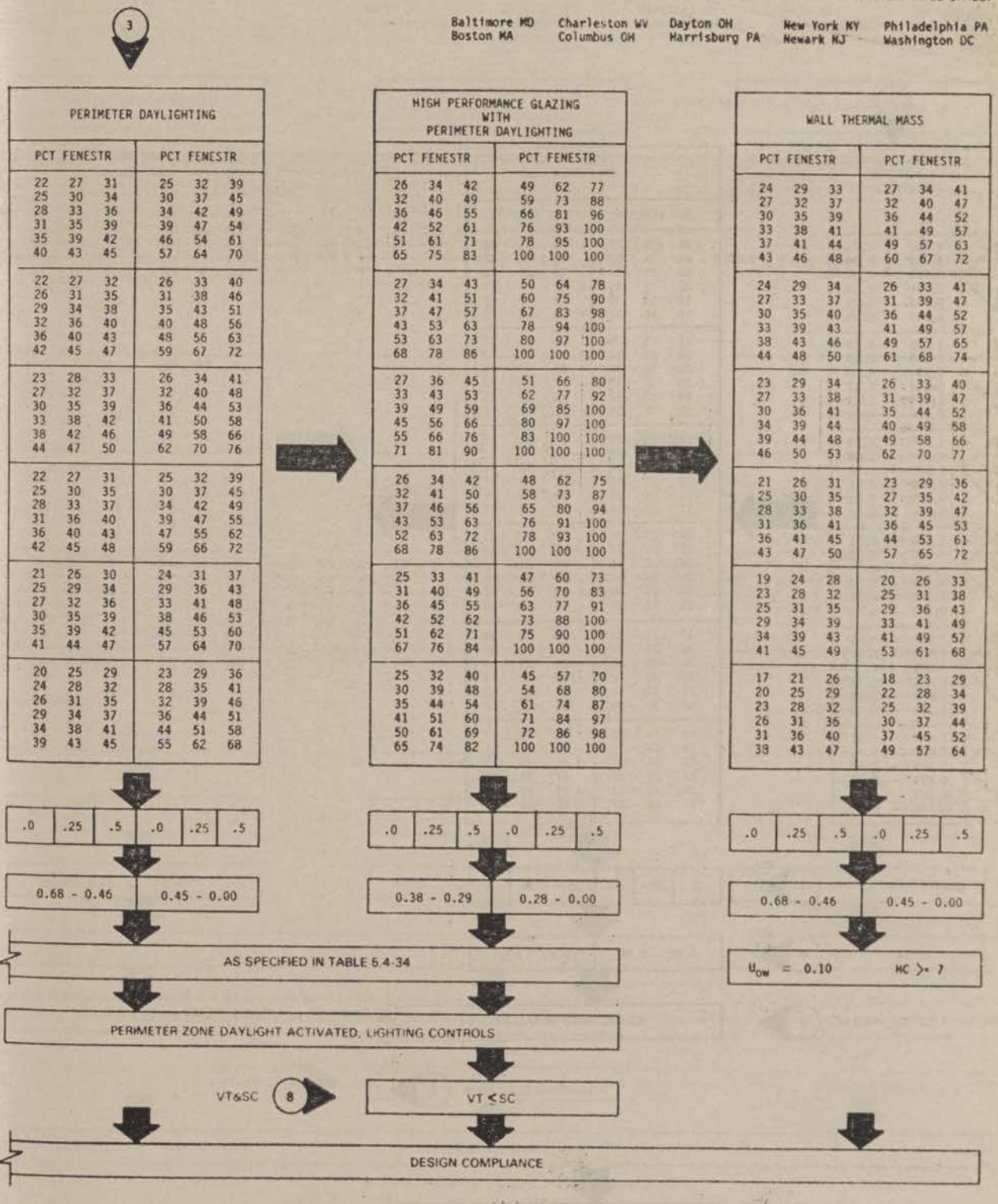


TABLE NUMBER: 5.A-22
INCLUDING THE FOLLOWING EXAMPLE CITIES:

Baltimore MD, Boston MA, Charleston WV, Columbus OH, Dayton OH, Harrisburg PA, New York NY, Newark NJ, Philadelphia PA, Washington DC



ALTERNATE COMPONENT PACKAGES FOR:

HDD50 = 2601-3200
CDD65 = 0-1150
VSEW = 560-845
CDH80 = N/A

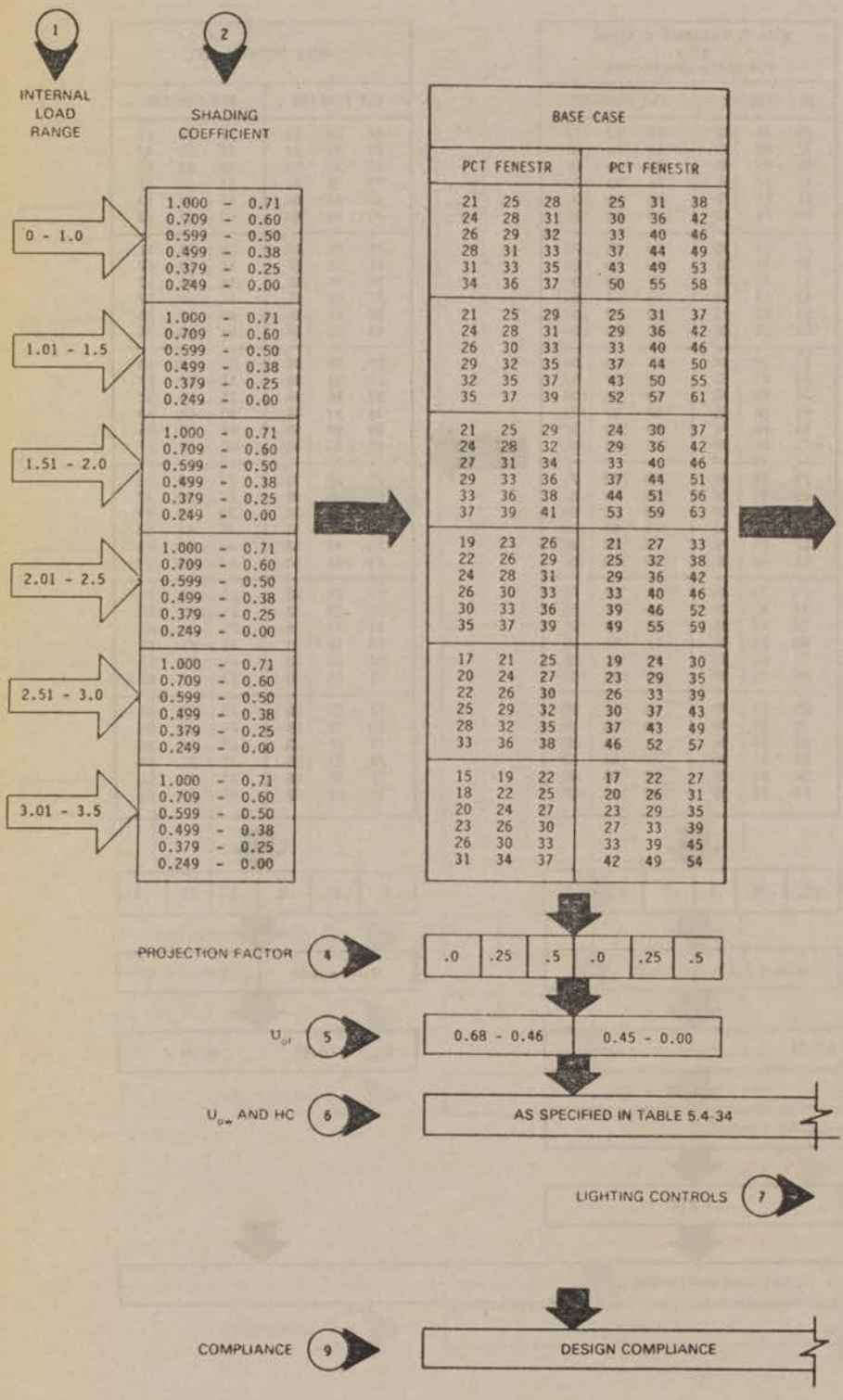


TABLE NUMBER: 5.A-23
INCLUDING THE FOLLOWING EXAMPLE CITIES:

Akron OH, Allentown PA, Chicago IL, Detroit MI, Hartford CT, Indianapolis IN, Omaha NE, Pittsburgh PA, Spokane WA, Toledo OH

(3)

PERIMETER DAYLIGHTING						HIGH PERFORMANCE GLAZING WITH PERIMETER DAYLIGHTING						WALL THERMAL MASS					
PCT FENESTR			PCT FENESTR			PCT FENESTR			PCT FENESTR			PCT FENESTR			PCT FENESTR		
21	25	28	26	32	38	27	34	42	50	62	74	23	27	31	28	34	40
24	28	30	30	37	42	32	40	48	59	71	83	26	30	33	32	39	45
26	29	32	34	40	46	37	45	52	64	77	88	28	32	34	36	43	48
28	31	33	37	44	49	41	50	57	73	85	96	30	33	36	40	46	52
31	33	35	43	49	53	49	56	62	74	87	97	33	35	37	46	51	56
34	35	36	50	54	57	59	65	69	100	100	100	36	38	39	53	57	60
22	26	29	26	32	39	27	35	43	50	63	75	23	28	31	27	34	40
25	28	31	31	37	43	33	41	49	59	72	84	26	30	34	32	39	45
27	30	33	34	41	47	37	46	53	66	78	90	29	32	36	36	43	49
29	32	34	38	45	50	42	51	58	74	87	98	31	34	37	40	47	53
32	34	36	44	50	55	50	58	64	76	88	99	34	37	39	46	52	58
35	37	38	52	57	60	60	67	72	100	100	100	38	40	41	55	59	63
23	27	30	27	33	40	28	36	44	52	65	77	23	28	32	26	33	40
26	29	33	32	38	45	34	42	51	61	74	87	26	31	35	31	38	45
28	31	34	35	42	48	38	47	55	68	81	93	29	33	37	35	43	49
30	33	36	40	46	52	44	53	60	77	90	100	32	36	39	40	47	54
33	36	38	46	52	57	52	60	67	78	91	100	35	39	41	47	54	59
37	39	41	54	59	63	63	70	76	100	100	100	40	42	44	56	62	66
21	25	28	25	31	37	27	34	42	49	61	72	21	25	29	24	30	36
24	28	31	30	36	42	32	40	48	58	70	81	24	28	32	28	35	41
26	30	33	33	40	46	36	45	52	64	76	87	27	31	34	32	39	45
28	32	34	37	44	49	41	50	57	72	84	95	29	33	36	36	43	49
32	34	36	43	49	54	49	57	64	74	86	96	33	36	39	43	50	55
35	38	39	52	56	60	60	67	72	100	100	100	38	40	42	52	58	63
21	25	28	24	31	36	26	33	41	47	59	70	19	24	27	21	27	33
24	27	30	29	35	41	31	39	47	56	68	79	22	27	31	26	32	38
26	29	32	32	39	45	36	44	52	62	74	85	25	29	33	29	36	42
28	31	34	36	43	48	41	49	57	70	82	92	28	32	35	34	40	47
31	34	36	42	48	53	49	56	63	72	84	94	31	35	38	40	47	53
35	37	39	51	56	59	60	66	71	100	100	100	37	40	42	50	56	61
20	24	27	24	30	35	26	33	40	46	58	68	17	21	25	19	24	30
23	26	29	28	34	40	31	39	46	55	66	76	20	25	28	23	29	35
25	28	31	32	38	43	35	43	51	60	72	82	23	27	31	27	33	39
27	30	33	35	42	47	40	48	56	69	79	89	26	30	33	30	37	43
30	33	35	41	47	52	48	56	62	70	81	90	30	33	36	37	43	49
34	36	38	50	54	58	59	66	70	100	100	100	35	38	41	47	53	58

.0	.25	.5	.0	.25	.5

0.68 - 0.46	0.45 - 0.00

.0	.25	.5	.0	.25	.5

0.38 - 0.29	0.28 - 0.00

.0	.25	.5	.0	.25	.5

0.68 - 0.46	0.45 - 0.00

AS SPECIFIED IN TABLE 5.4-34

U_{GW} = 0.085 HC >= 7

PERIMETER ZONE DAYLIGHT ACTIVATED, LIGHTING CONTROLS

VT&SC (8)

VT ≤ SC

DESIGN COMPLIANCE

ALTERNATE COMPONENT PACKAGES FOR:

HDD50 = 1751-3200
CDD65 = 0-1150
VSEW = >845
CDH80 = N/A

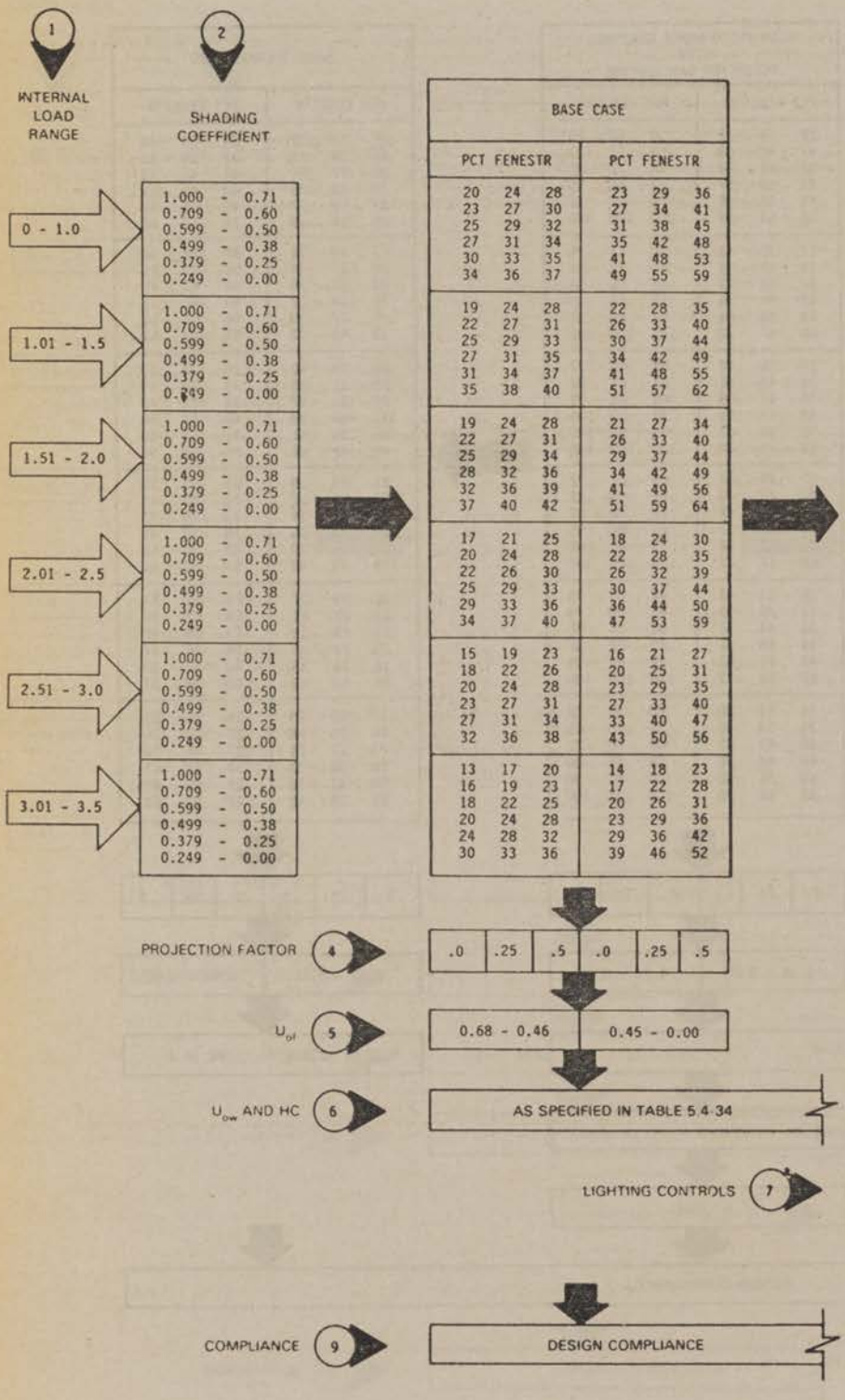


TABLE NUMBER: 5.A-24
INCLUDING THE FOLLOWING EXAMPLE CITIES:

Boise ID, Clayton NM, Colorado Springs CO, Denver CO, Lovelock NV, Mount Shasta CA, Pueblo CO, Reno NV, Salt Lake City UT, Winnemucca NV

(3)

PERIMETER DAYLIGHTING					
PCT FENESTR			PCT FENESTR		
20	24	28	23	30	36
23	27	30	28	35	41
25	29	32	31	38	45
27	31	33	35	42	49
30	33	35	41	48	53
34	36	37	50	55	59
20	25	29	24	30	37
23	28	31	28	35	42
26	30	33	32	39	46
28	32	35	36	43	50
31	34	37	42	49	55
35	38	39	51	57	61
21	26	30	24	31	38
24	29	33	29	36	43
27	31	34	33	40	47
29	33	36	37	45	52
33	36	39	44	51	57
37	40	42	54	60	64
20	24	28	22	29	35
23	27	30	27	34	40
25	29	32	30	37	44
27	31	34	35	42	48
31	34	37	41	48	54
35	38	40	50	56	61
19	23	27	22	28	34
22	26	29	26	32	39
24	28	31	29	36	43
26	30	33	33	40	47
30	33	36	40	46	52
35	37	39	49	55	59
18	22	26	21	26	32
21	25	28	25	31	37
23	27	30	28	35	41
25	29	32	32	39	45
29	32	35	38	45	50
33	36	38	47	53	57

HIGH PERFORMANCE GLAZING WITH PERIMETER DAYLIGHTING					
PCT FENESTR			PCT FENESTR		
24	32	40	45	58	71
29	38	46	54	68	81
34	42	51	60	74	87
39	48	56	69	83	96
46	55	63	71	85	97
57	65	71	100	100	100
25	32	40	46	59	72
30	38	47	55	69	82
34	43	52	61	75	88
39	49	57	70	84	97
47	57	64	72	86	99
59	67	73	100	100	100
25	33	42	47	60	73
31	39	48	56	70	84
35	45	54	63	77	91
41	50	60	72	87	100
49	59	67	74	89	100
62	70	77	100	100	100
24	31	39	43	56	68
29	37	45	52	65	78
33	42	51	58	72	84
38	47	56	67	80	93
46	56	63	69	82	94
58	66	73	100	100	100
23	30	38	42	54	66
28	36	44	50	63	75
32	41	49	56	69	81
37	46	55	65	78	89
45	54	62	67	79	91
58	66	72	100	100	100
22	29	37	40	51	63
27	35	43	48	60	71
32	40	48	54	66	77
36	45	53	62	74	85
44	53	61	64	76	86
56	64	70	100	100	100

WALL THERMAL MASS					
PCT FENESTR			PCT FENESTR		
23	28	32	26	33	40
26	31	34	31	38	45
28	33	36	35	42	49
31	35	37	39	46	53
34	37	39	45	52	58
37	39	41	54	59	63
23	27	32	25	32	39
26	31	35	30	38	45
28	33	37	34	42	49
31	35	39	39	46	53
35	38	41	45	53	59
39	42	43	55	61	65
22	27	32	24	31	39
26	31	35	29	37	44
28	33	38	33	41	49
31	36	40	38	46	53
36	40	43	45	53	60
41	44	46	56	63	68
20	24	29	22	28	34
23	28	32	26	33	40
26	31	35	30	37	44
29	33	37	34	42	49
33	37	40	41	49	55
38	42	44	51	58	64
18	22	27	19	25	31
21	26	30	23	30	36
24	28	33	27	34	41
27	31	35	31	38	45
31	35	39	38	45	52
37	40	43	48	55	61
16	20	24	17	22	28
19	23	28	21	27	33
21	26	30	24	30	37
24	29	33	28	35	41
29	33	37	34	41	48
35	39	42	45	51	57

.0	.25	.5	.0	.25	.5

0.68 - 0.46	0.45 - 0.00

.0	.25	.5	.0	.25	.5

0.38 - 0.29	0.28 - 0.00

.0	.25	.5	.0	.25	.5

0.68 - 0.46	0.45 - 0.00

AS SPECIFIED IN TABLE 5.4-34

U_{OW} = 0.089 HC >= 7

PERIMETER ZONE DAYLIGHT ACTIVATED LIGHTING CONTROLS

VT&SC (8) VT ≤ SC

DESIGN COMPLIANCE

ALTERNATE COMPONENT PACKAGES FOR:

HDD50 = 1751-3200
CDD65 = 1151-2000
VSEW = 560-845
CDH80 = N/A

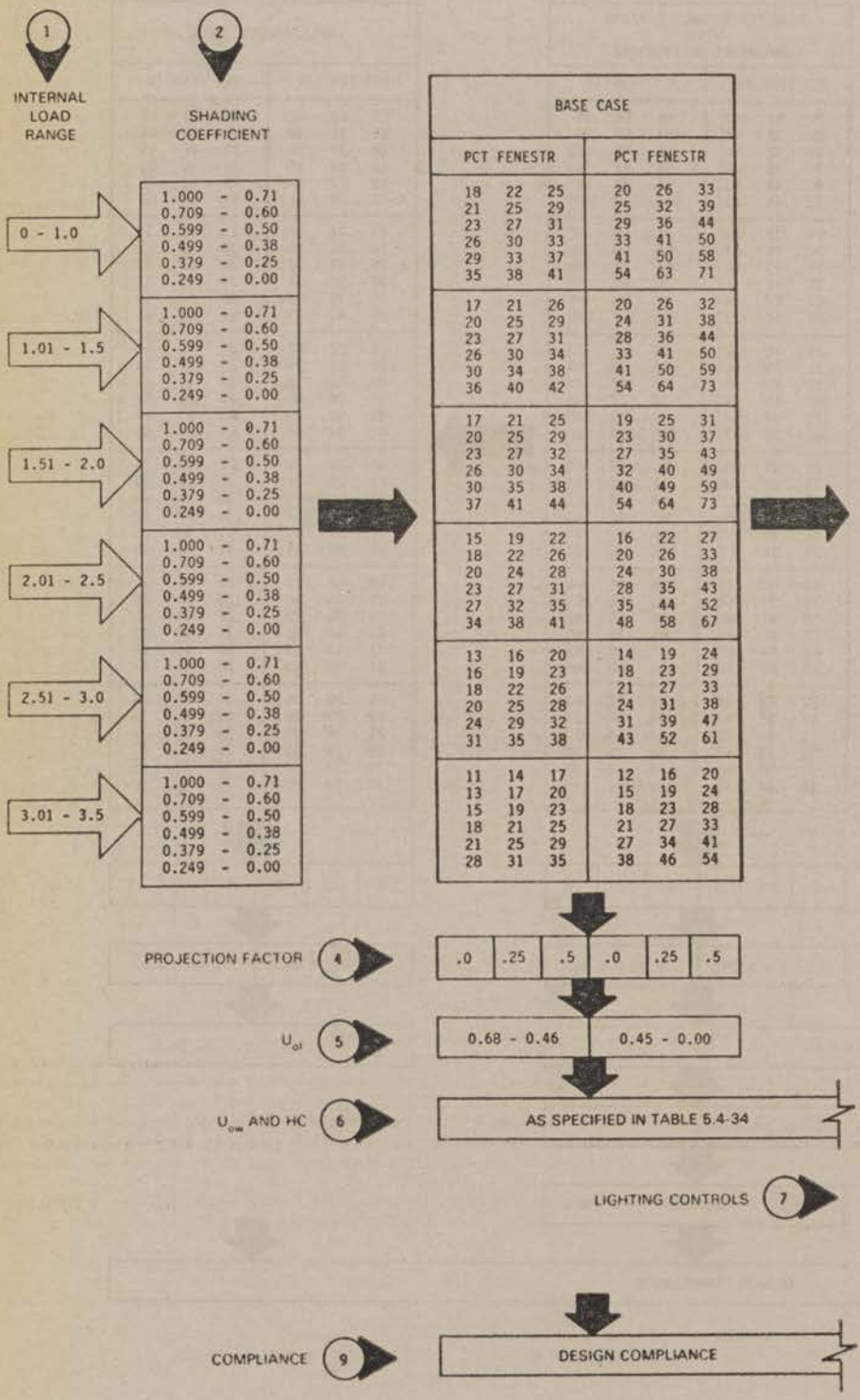


TABLE NUMBER: 5.A-25
INCLUDING THE FOLLOWING EXAMPLE CITIES:

Columbia MO, Evansville IN, Lexington KY, Louisville KY, Saint Louis MO, Springfield MO, Springfield IL, Topeka KS

(3)

PERIMETER DAYLIGHTING						HIGH PERFORMANCE GLAZING WITH PERIMETER DAYLIGHTING						WALL THERMAL MASS					
PCT FENESTR			PCT FENESTR			PCT FENESTR			PCT FENESTR			PCT FENESTR			PCT FENESTR		
18	22	26	21	27	34	22	29	36	41	54	68	20	24	28	23	29	36
21	25	29	26	33	40	27	35	43	50	65	80	23	27	31	27	35	42
23	28	31	30	37	45	31	40	49	57	73	89	25	30	34	31	39	47
26	30	34	34	43	51	37	46	56	68	85	100	28	32	36	36	45	53
30	34	37	42	51	59	46	57	67	70	87	100	32	36	39	44	53	61
35	38	41	55	64	72	62	73	84	100	100	100	38	41	43	57	66	73
19	23	27	22	28	35	22	29	37	42	55	69	19	24	28	22	28	35
22	26	30	26	34	41	28	36	45	52	66	82	23	27	32	27	34	42
24	29	32	30	38	46	32	41	51	59	74	91	25	30	34	31	39	47
27	31	35	35	44	52	38	48	58	70	87	100	28	33	37	36	44	53
31	35	38	44	53	61	47	59	70	72	89	100	33	37	41	44	53	62
37	40	43	57	66	74	64	76	87	100	100	100	39	42	45	58	67	75
19	23	28	22	29	36	23	30	39	43	57	71	19	24	28	21	28	34
22	27	31	27	34	42	28	37	46	53	68	83	22	27	32	26	33	41
25	30	34	31	39	48	33	43	53	60	76	92	25	30	35	30	38	46
28	32	36	36	45	54	39	50	61	71	88	100	28	33	37	35	44	52
32	36	40	45	54	63	49	61	72	74	91	100	33	38	42	43	53	62
38	42	44	59	68	77	67	79	90	100	100	100	40	44	47	58	67	76
18	22	26	21	27	34	22	29	37	41	53	67	17	21	25	19	24	31
21	25	29	25	32	40	27	35	44	50	64	78	20	25	29	23	29	36
24	28	32	29	37	45	32	41	51	57	71	86	23	27	32	27	34	41
26	31	34	34	42	51	37	47	58	67	83	99	26	30	35	31	39	47
30	34	38	42	51	60	47	58	69	69	85	100	30	35	39	39	48	56
36	40	42	56	65	72	64	75	86	100	100	100	37	41	44	52	62	70
17	21	25	20	26	32	21	28	36	39	51	63	15	19	23	17	22	27
20	24	28	24	31	38	26	34	43	47	61	74	18	22	26	20	26	32
22	26	30	28	35	43	31	39	49	54	68	81	21	25	29	24	30	37
25	29	33	32	40	48	36	46	56	64	78	93	23	28	32	28	35	42
29	33	36	40	49	57	46	57	67	66	80	95	28	32	36	35	43	51
35	38	41	53	62	69	62	73	82	100	100	100	35	39	42	47	56	65
16	20	23	18	24	30	21	27	34	36	47	60	13	17	20	14	19	23
19	23	26	23	29	35	25	33	41	44	57	70	16	20	24	18	23	28
21	25	28	26	33	40	30	38	47	51	65	76	18	22	26	21	26	32
23	27	31	30	38	45	35	44	54	60	74	87	21	25	29	24	31	37
27	31	34	38	46	53	44	55	65	63	76	88	25	29	33	31	38	45
33	36	38	50	58	66	60	70	79	100	100	100	32	36	39	42	51	58

.0	.25	.5	.0	.25	.5

0.68 - 0.46	0.45 - 0.00

.0	.25	.5	.0	.25	.5

0.38 - 0.29	0.28 - 0.00

.0	.25	.5	.0	.25	.5

0.68 - 0.46	0.45 - 0.00

AS SPECIFIED IN TABLE 5.4-34

U_{OW} = 0.10 HC >= 7

PERIMETER ZONE DAYLIGHT ACTIVATED, LIGHTING CONTROLS

VT&SC (8) VT ≤ SC

DESIGN COMPLIANCE

ALTERNATE COMPONENT PACKAGES FOR:

HDD50 = 1751-3200
CDD65 = 1151-2000
VSEW = >845
CDH80 = N/A

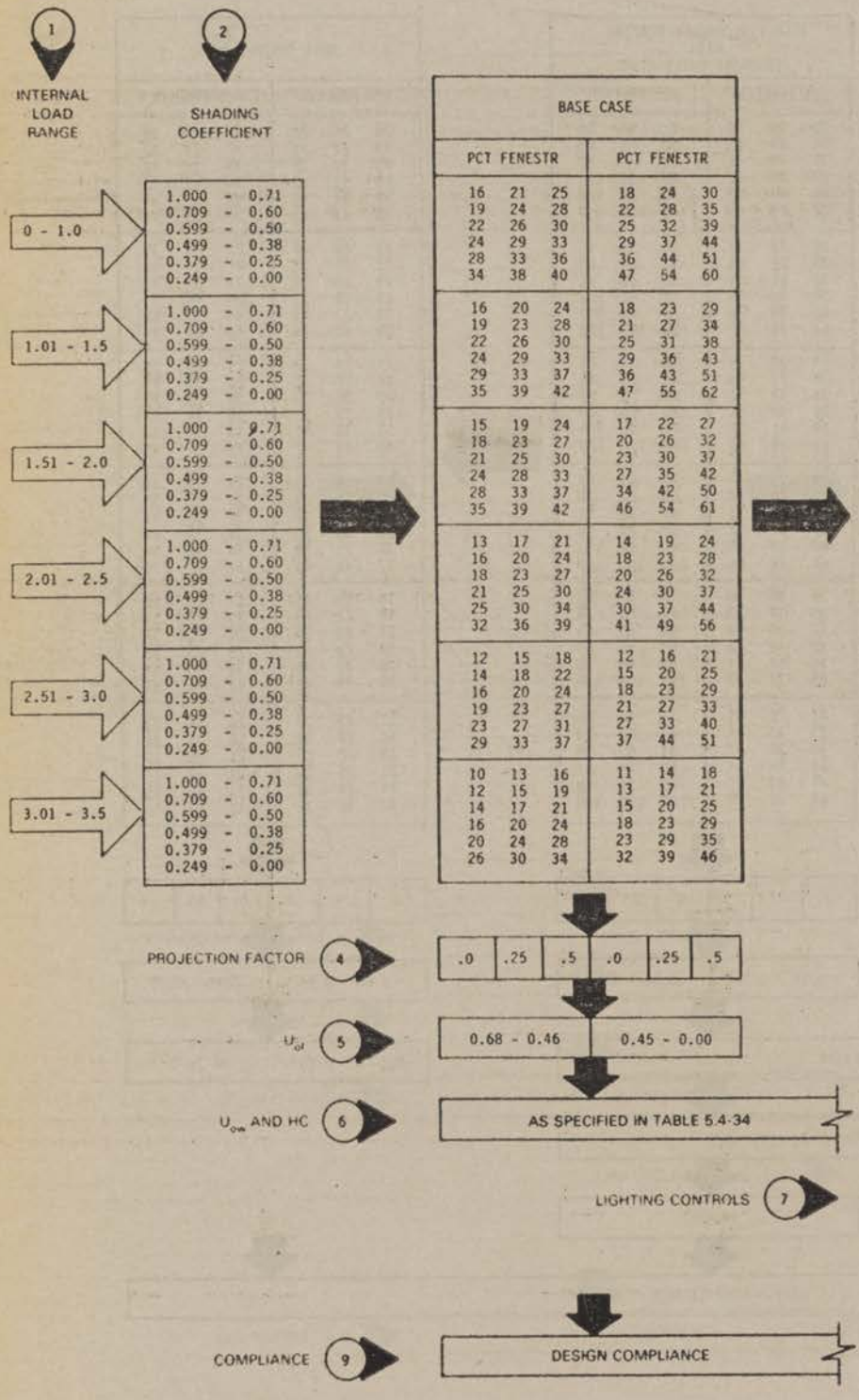
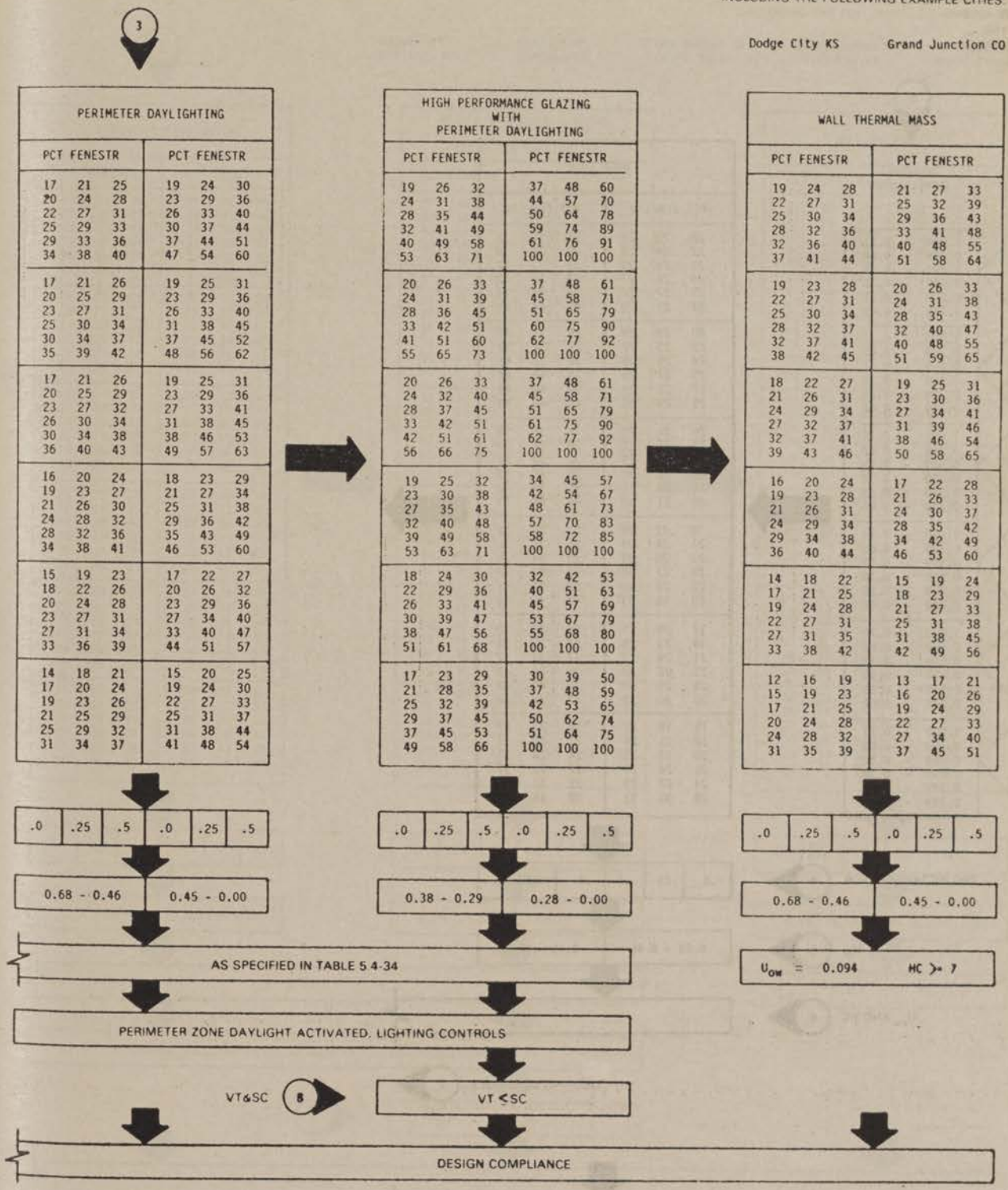


TABLE NUMBER: 5.A-26
INCLUDING THE FOLLOWING EXAMPLE CITIES:

Dodge City KS Grand Junction CO



ALTERNATE COMPONENT PACKAGES FOR:

HDD50 = 3201-4000
CDD65 = 0-1150
VSEW = 560-845
CDH80 = N/A

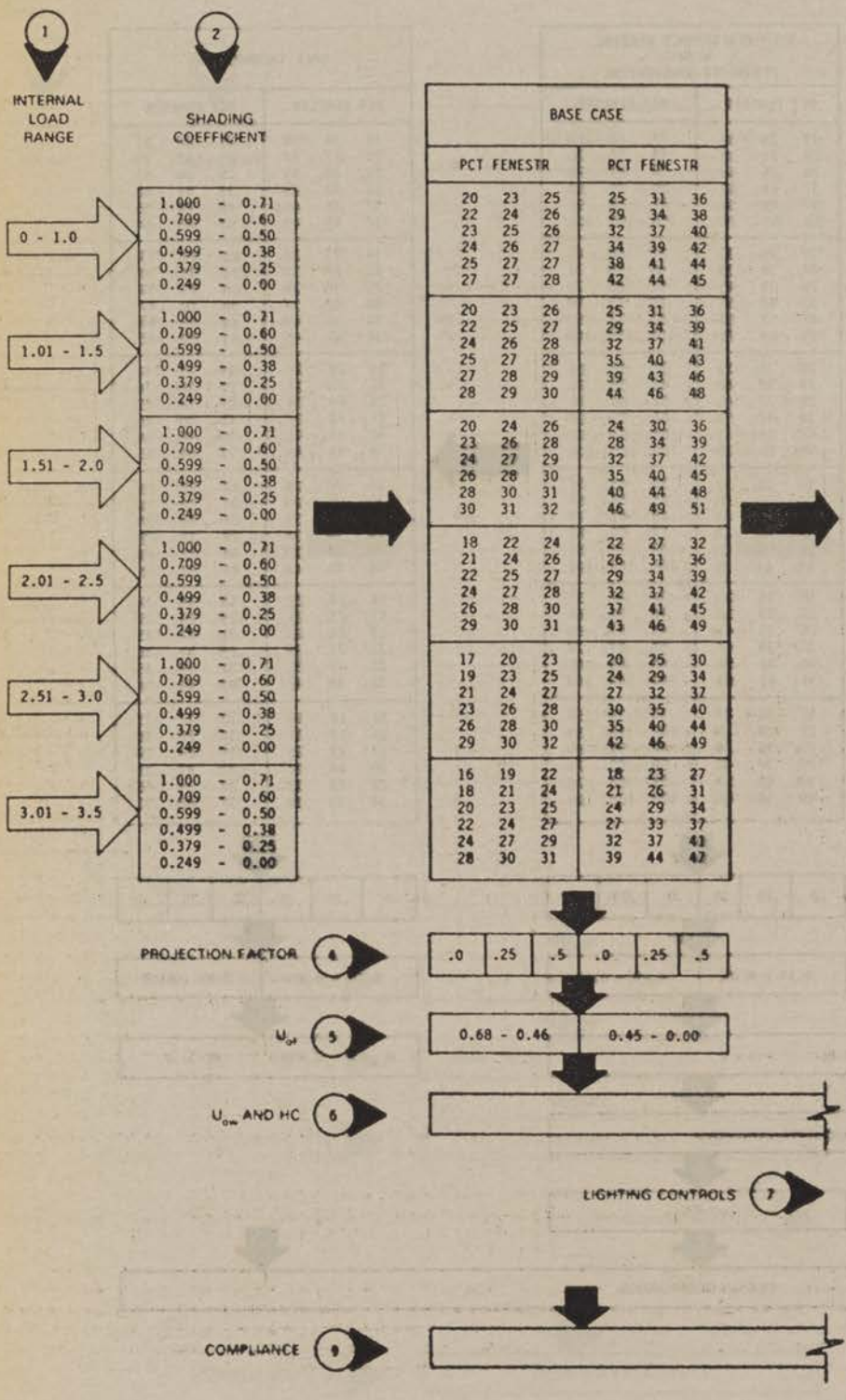


TABLE NUMBER: 5.A-27
INCLUDING THE FOLLOWING EXAMPLE CITIES:

Albany NY, Billings MT, Buffalo NY, Concord NH, Des Moines IA, Grand Island NE, Grand Rapids MI, Milwaukee WI, Portland ME, Rapid City SD

(3)

PERIMETER DAYLIGHTING					
PCT FENESTR			PCT FENESTR		
20	23	24	26	31	35
22	24	25	29	34	38
23	25	26	32	36	40
24	25	26	34	38	41
25	26	27	37	41	43
26	27	27	41	43	44
20	23	25	26	31	36
22	25	26	29	34	39
23	25	27	32	37	41
25	26	28	35	39	42
26	27	28	38	42	44
28	29	29	43	45	47
21	24	26	26	32	37
23	26	27	30	35	40
24	27	28	33	38	42
26	28	29	36	41	44
28	29	30	40	44	47
30	31	31	45	48	50
20	23	25	25	30	34
22	24	26	28	33	38
23	25	27	31	36	40
25	27	28	34	38	42
26	28	29	38	42	45
29	30	31	43	46	48
20	22	25	24	29	34
22	24	26	28	33	37
23	25	27	31	36	39
25	27	28	34	38	42
26	28	29	38	42	45
29	30	31	43	46	48
19	22	24	24	29	33
21	24	26	27	32	37
23	25	27	30	35	39
24	26	28	33	38	41
26	28	29	37	41	44
29	30	31	43	46	48

HIGH PERFORMANCE GLAZING WITH PERIMETER DAYLIGHTING					
PCT FENESTR			PCT FENESTR		
27	34	40	49	59	68
32	39	44	56	65	73
35	42	47	60	69	76
39	45	49	66	74	79
44	48	52	67	74	80
49	52	54	89	89	89
27	34	41	49	60	69
32	39	45	56	66	74
36	42	47	61	70	78
39	45	50	67	75	82
44	49	53	68	76	82
51	54	56	98	98	98
28	35	42	50	61	70
33	40	46	58	68	77
37	43	49	63	72	80
41	47	52	69	78	85
46	51	55	70	79	86
53	57	60	100	100	100
26	33	39	47	58	66
31	38	44	55	64	72
35	41	46	59	68	76
38	45	49	65	74	81
44	49	53	67	75	82
51	55	57	100	100	100
26	33	39	47	57	65
31	37	43	54	63	71
34	41	46	58	68	75
38	44	49	65	73	80
44	49	53	66	74	81
51	55	58	100	100	100
26	32	39	46	56	64
30	37	43	53	62	70
34	41	46	58	66	74
38	44	49	64	72	79
43	49	53	65	73	80
51	55	58	100	100	100

WALL THERMAL MASS					
PCT FENESTR			PCT FENESTR		
23	25	28	28	34	39
24	27	28	32	38	42
26	28	29	35	40	44
27	28	29	38	42	45
28	29	30	41	45	47
29	30	30	45	47	48
23	26	28	28	34	39
25	28	30	32	38	42
26	29	30	35	40	45
28	30	31	38	43	47
29	31	32	42	46	49
31	32	32	47	49	51
23	26	29	27	33	39
25	28	31	32	38	43
27	30	32	35	41	46
29	31	33	38	44	48
31	33	34	43	48	51
33	34	35	49	52	54
21	24	27	25	30	36
23	27	29	29	34	40
25	28	30	32	38	43
27	30	32	35	41	45
29	31	33	40	45	49
32	33	34	47	50	53
20	23	26	23	28	34
22	26	28	27	32	38
24	27	30	30	36	41
26	29	31	34	39	44
29	31	33	39	44	48
32	34	35	46	50	52
18	22	25	21	26	31
21	24	27	24	30	35
23	26	29	28	33	38
25	28	30	31	37	41
28	30	32	36	42	46
31	33	35	44	48	51

.0	.25	.5	.0	.25	.5

0.68 - 0.46	0.45 - 0.00

.0	.25	.5	.0	.25	.5

0.38 - 0.29	0.28 - 0.00

.0	.25	.5	.0	.25	.5

0.68 - 0.46	0.45 - 0.00

U_{ow} = 0.077 HC $\geq$ 7

PERIMETER ZONE DAYLIGHT ACTIVATED, LIGHTING CONTROLS

VT&SC (8) VT $\leq$ SC

ALTERNATE COMPONENT PACKAGES FOR:

HDD50 = 4001-5000
CDD65 = 0-1150
VSEW = 560-845
CDH80 = N/A

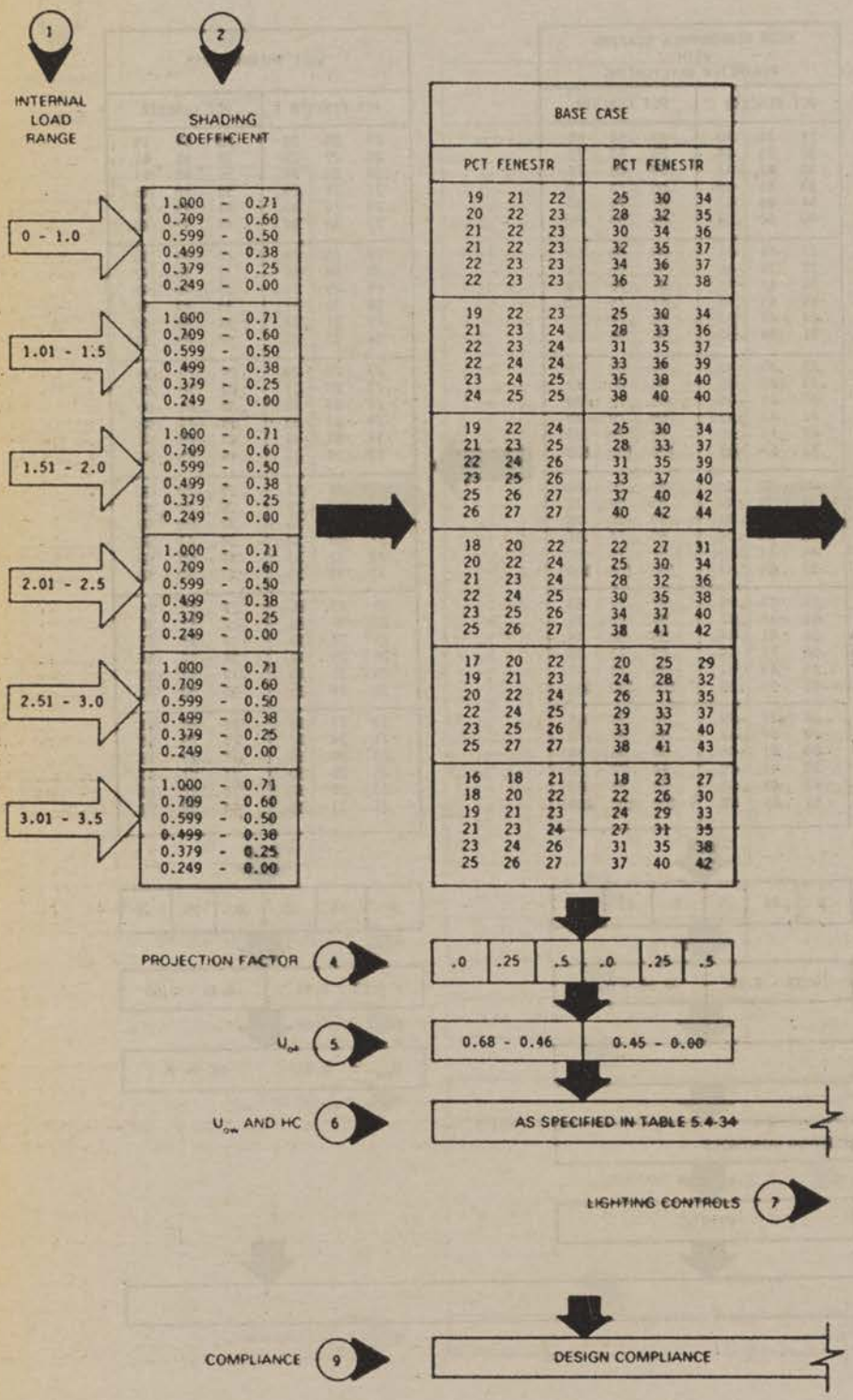


TABLE NUMBER: 5.A-28
INCLUDING THE FOLLOWING EXAMPLE CITIES:

Bangor ME, Burlington VT, Cutbank MT, Greenbay WI, Huron SD, Madison WI, Minneapolis MN, Pierre SD, Rochester NY, Sioux Falls SD

(3)

PERIMETER DAYLIGHTING						HIGH PERFORMANCE GLAZING WITH PERIMETER DAYLIGHTING						WALL THERMAL MASS					
PCT FENESTR			PCT FENESTR			PCT FENESTR			PCT FENESTR			PCT FENESTR			PCT FENESTR		
19	21	22	25	30	33	28	34	38	48	56	62	22	24	25	29	33	37
20	21	22	28	32	34	31	37	41	53	60	65	23	24	25	32	36	39
20	21	22	30	33	35	34	39	42	56	62	66	23	24	25	34	37	40
21	22	22	32	34	36	37	41	43	60	64	67	24	25	25	35	38	40
21	22	22	33	35	36	39	42	44	60	65	68	24	25	25	37	39	40
22	22	22	35	36	37	42	44	45	69	69	69	24	25	25	39	40	40
19	21	22	25	30	33	27	33	38	48	56	63	22	24	26	28	33	37
20	22	23	28	32	35	31	37	41	53	61	66	23	25	26	31	36	40
21	22	23	30	34	36	34	39	43	57	63	68	24	26	27	34	38	41
22	23	23	32	35	37	37	41	44	61	66	70	25	26	27	36	40	42
22	23	24	34	37	38	40	43	45	61	66	70	26	27	27	39	41	43
23	24	24	37	38	39	44	46	47	76	76	76	26	27	27	41	43	43
19	22	23	26	30	34	28	34	39	49	57	64	22	25	27	27	33	38
21	23	24	29	33	36	32	38	42	54	62	68	24	26	28	31	36	40
22	23	24	31	35	37	35	40	44	58	65	70	25	27	28	34	39	42
23	24	25	33	36	39	38	42	45	63	69	73	26	28	29	37	41	44
24	25	26	36	38	40	41	45	47	63	69	73	27	28	29	40	43	45
25	26	26	39	41	42	46	48	50	85	85	85	28	29	29	44	45	47
18	20	22	24	28	32	26	32	37	46	54	60	20	23	25	25	30	35
20	22	23	27	31	34	30	35	40	51	58	64	22	25	27	28	33	38
21	22	23	29	33	35	33	38	41	55	61	66	24	26	27	31	36	40
22	23	24	31	34	37	36	40	43	59	65	69	25	27	28	34	38	41
23	24	25	34	37	38	39	43	45	60	66	70	26	28	29	38	41	44
24	25	26	37	39	41	44	46	48	86	86	86	28	29	29	42	44	46
18	20	22	24	28	32	26	32	37	45	53	60	19	22	25	23	28	33
20	22	23	27	31	34	30	35	40	51	58	64	21	24	26	27	32	36
21	23	24	29	33	36	33	38	42	54	61	67	23	25	27	30	35	39
22	23	25	31	35	37	36	40	43	59	65	70	24	27	28	33	37	41
23	25	25	34	37	39	40	43	46	60	66	71	26	28	29	37	41	43
25	26	27	38	40	42	45	47	49	91	91	91	28	30	30	42	45	46
18	20	22	23	28	31	25	31	36	45	53	59	18	21	24	21	26	31
20	22	23	26	31	34	30	35	40	50	58	64	20	23	25	25	30	34
21	23	24	29	33	35	32	38	42	54	61	67	22	25	27	28	33	37
22	24	25	31	34	37	36	40	44	59	65	70	24	26	28	31	35	39
23	25	26	34	37	39	40	44	46	60	66	71	26	28	29	35	39	42
25	26	27	38	40	42	45	48	50	94	94	94	28	30	31	41	44	46

.0	.25	.5	.0	.25	.5

0.68 - 0.46	0.45 - 0.00

.0	.25	.5	.0	.25	.5

0.38 - 0.29	0.28 - 0.00

.0	.25	.5	.0	.25	.5

0.68 - 0.46	0.45 - 0.00

AS SPECIFIED IN TABLE 5.4-34

U_{OW} = 0.071 HC >= 7

PERIMETER ZONE DAYLIGHT ACTIVATED LIGHTING CONTROLS

VT&SC (8) → VT ≤ SC

DESIGN COMPLIANCE

ALTERNATE COMPONENT PACKAGES FOR:

HDD50 = 3201-4000
CDD65 = 0-1150
VSEW = >845
CDH80 = N/A

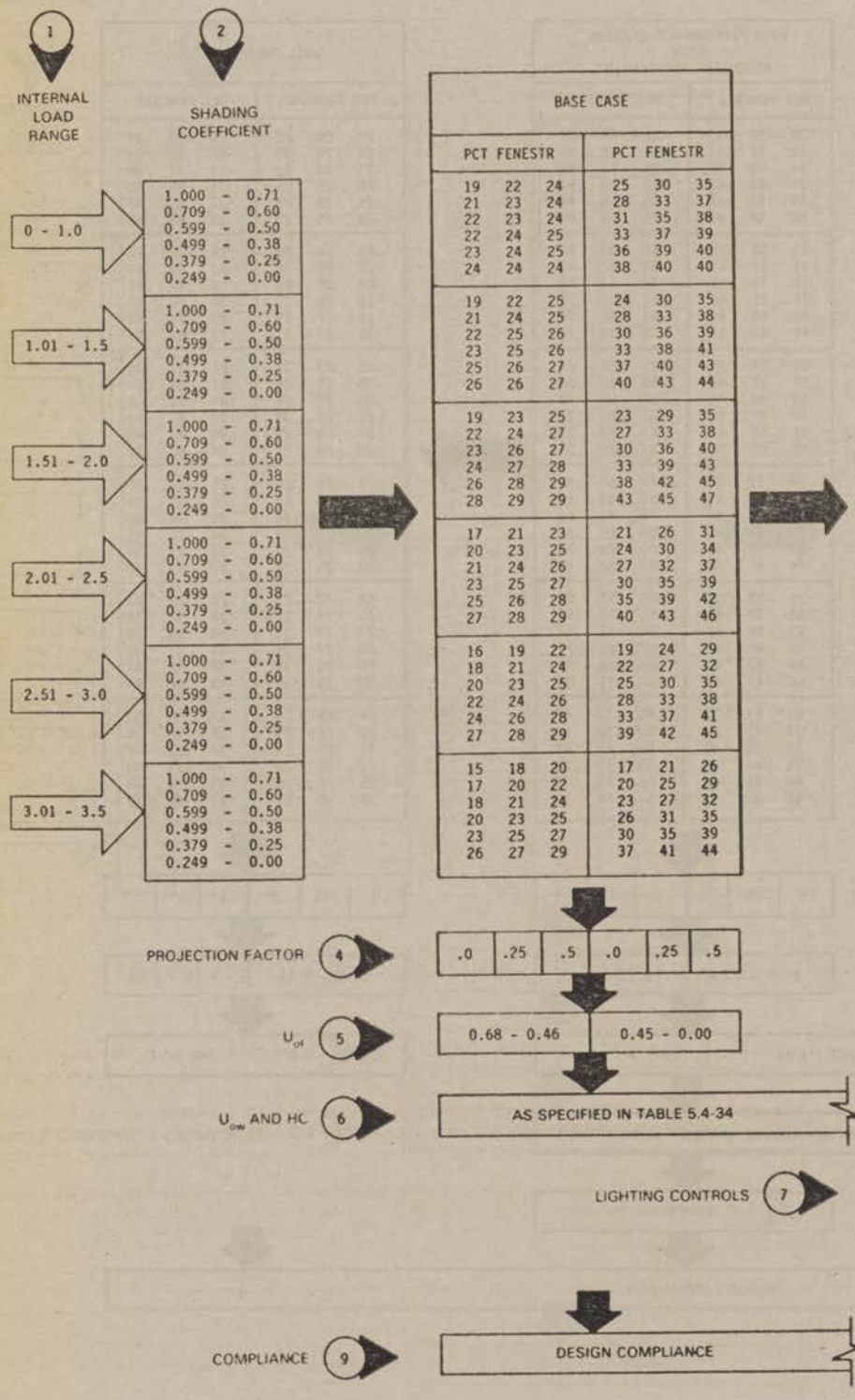


TABLE NUMBER: 5.A.29
INCLUDING THE FOLLOWING EXAMPLE CITIES:

Casper WY, Cheyenne WY, Elko NV, Ely NV, North Platte NE, Pocatello ID, Scottsbluff NE

(3)

PERIMETER DAYLIGHTING												
PCT FENESTR						PCT FENESTR					
19	22	23				25	30	35			
21	22	24				28	33	37			
21	23	24				30	35	38			
22	23	24				33	36	39			
23	24	24				35	38	39			
23	24	24				37	39	40			
20	22	24				25	30	35			
21	23	25				29	33	37			
22	24	25				31	36	39			
23	24	25				33	37	40			
24	25	26				36	39	41			
25	26	26				39	41	42			
20	23	25				26	31	36			
22	24	26				29	35	39			
23	25	27				32	37	41			
24	26	27				35	39	42			
26	27	28				38	42	44			
27	28	29				42	44	46			
19	22	24				24	29	34			
21	23	25				27	32	36			
22	24	26				30	35	38			
23	25	26				33	37	40			
25	26	27				36	40	42			
26	27	28				40	43	44			
19	21	24				23	29	33			
21	23	25				27	32	36			
22	24	26				30	34	38			
23	25	26				32	36	40			
25	26	27				36	39	42			
27	28	29				40	43	45			
18	21	23				23	28	32			
20	23	24				26	31	35			
22	24	25				29	33	37			
23	25	26				32	36	39			
25	26	27				35	39	42			
27	28	29				40	43	45			

HIGH PERFORMANCE GLAZING WITH PERIMETER DAYLIGHTING												
PCT FENESTR						PCT FENESTR					
27	34	40				48	58	66			
31	38	43				54	63	70			
34	40	45				58	66	72			
37	43	47				62	69	73			
41	45	48				63	69	74			
45	47	49				74	74	74			
27	34	40				48	58	67			
31	38	44				54	64	71			
35	41	46				58	67	74			
38	44	48				63	71	76			
42	47	50				64	72	77			
47	50	51				83	83	83			
27	35	41				49	60	69			
32	39	45				56	66	74			
36	43	48				60	70	77			
39	46	50				66	74	80			
44	49	52				67	75	81			
50	53	55				94	94	94			
26	33	39				46	56	64			
30	37	43				52	62	69			
34	40	45				57	65	72			
37	43	47				62	70	76			
42	47	50				63	71	77			
47	51	53				95	95	95			
25	32	38				45	55	63			
30	37	42				52	61	68			
33	40	45				56	64	71			
37	43	47				61	69	75			
42	47	50				62	70	76			
48	51	54				100	100	100			
25	32	38				44	53	62			
29	36	42				50	59	67			
33	39	44				54	63	70			
36	42	47				60	68	74			
41	46	50				61	69	75			
48	51	54				100	100	100			

WALL THERMAL MASS												
PCT FENESTR						PCT FENESTR					
23	26	27				29	35	40			
24	27	28				33	38	42			
25	27	28				35	40	43			
26	27	28				38	42	44			
27	27	28				40	43	45			
27	27	27				42	44	44			
23	26	28				28	34	39			
25	27	29				32	38	42			
26	28	30				35	40	44			
27	29	30				38	42	46			
28	29	30				41	45	47			
29	30	30				45	47	48			
23	26	29				27	34	39			
25	28	30				31	38	43			
27	29	31				35	41	45			
28	30	32				38	43	47			
30	31	32				42	47	50			
31	32	33				47	50	52			
21	24	27				24	30	36			
23	26	29				28	34	39			
25	28	30				31	37	42			
26	29	31				35	40	44			
28	30	32				39	44	47			
31	32	33				45	48	50			
19	23	26				22	28	33			
22	25	28				26	32	37			
24	27	29				29	35	40			
26	28	30				33	38	43			
28	30	32				38	42	46			
31	32	33				44	47	50			
18	21	24				20	25	30			
20	24	27				24	29	34			
22	25	28				27	32	37			
24	27	29				30	36	40			
27	29	31				35	40	44			
30	32	33				42	46	49			

.0	.25	.5	.0	.25	.5

0.68 - 0.46	0.45 - 0.00

.0	.25	.5	.0	.25	.5

0.38 - 0.29	0.28 - 0.00

.0	.25	.5	.0	.25	.5

0.68 - 0.46	0.45 - 0.00

AS SPECIFIED IN TABLE 5.4-34

U_{OW} = 0.076 HC >= 7

PERIMETER ZONE DAYLIGHT ACTIVATED, LIGHTING CONTROLS

VT&SC (8) VT ≤ SC

DESIGN COMPLIANCE

ALTERNATE COMPONENT PACKAGES FOR:

HDD50 = 4001-5000
CDD65 = 0-1150
VSEW = >845
CDH80 = N/A

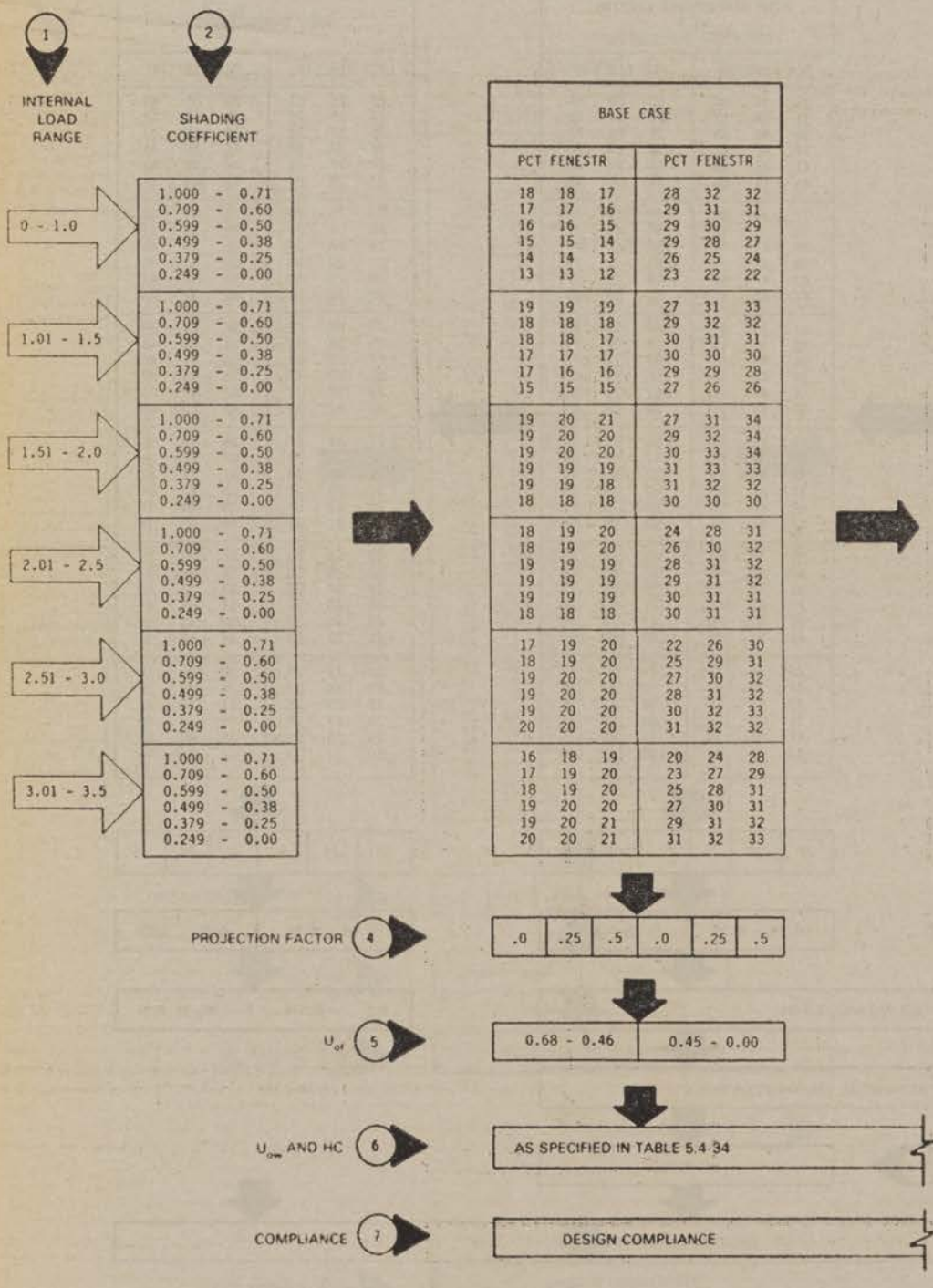


TABLE NUMBER: 5.A-30

INCLUDING THE FOLLOWING EXAMPLE CITIES:

Bryce UT
Eagle CO
Rock Springs WY

3

HIGH PERFORMANCE GLAZING					
PCT FENESTR			PCT FENESTR		
32	38	41	52	57	58
35	39	40	53	56	54
36	38	38	53	54	52
36	37	35	51	50	48
34	33	32	51	49	47
30	29	28	32	32	32
31	36	40	51	57	60
34	38	41	54	57	58
36	39	40	54	57	56
37	39	39	54	55	54
37	37	36	54	54	53
34	34	33	39	39	39
29	35	40	50	57	61
33	38	41	54	59	61
35	40	42	55	59	61
37	40	41	57	59	59
39	40	40	57	59	59
38	38	38	48	48	48
26	32	36	45	52	57
30	35	38	49	55	58
32	36	39	51	56	58
34	38	39	53	56	58
36	38	39	54	56	58
37	38	38	51	51	51
24	30	34	42	49	55
28	33	37	46	53	57
30	35	38	49	54	58
33	36	39	52	56	59
35	38	40	52	56	59
38	39	40	57	57	57
22	27	31	38	45	51
25	30	34	43	49	54
28	32	36	46	51	56
30	34	37	49	54	57
34	37	39	50	54	58
37	39	40	61	61	61

WALL THERMAL MASS					
PCT FENESTR			PCT FENESTR		
23	22	21	34	38	39
22	21	20	36	37	37
20	19	18	36	36	35
19	18	17	35	34	32
17	17	16	32	31	29
16	15	15	28	27	26
23	24	23	33	37	39
23	23	22	35	38	38
22	22	21	36	37	37
21	21	20	36	36	35
20	19	19	35	34	33
18	18	18	32	31	30
23	25	25	32	37	40
24	24	24	35	38	40
24	24	23	36	38	39
23	23	23	37	38	38
22	22	22	37	37	37
21	21	21	35	35	34
22	23	24	29	33	37
22	23	24	32	35	38
23	23	23	33	36	38
23	23	23	35	37	37
22	23	22	35	36	37
22	22	22	35	35	35
21	23	24	27	31	35
22	23	24	30	34	37
23	24	24	32	35	37
23	24	24	34	36	38
23	24	24	35	37	38
23	23	23	36	37	37
19	22	23	24	29	33
21	23	24	27	32	35
22	23	24	30	33	36
23	24	24	32	35	37
23	24	25	34	37	38
24	24	25	36	38	38

.0	.25	.5	.0	.25	.5

0.38 - 0.29	0.28 - 0.00

AS SPECIFIED IN TABLE 5.4-34

.0	.25	.5	.0	.25	.5

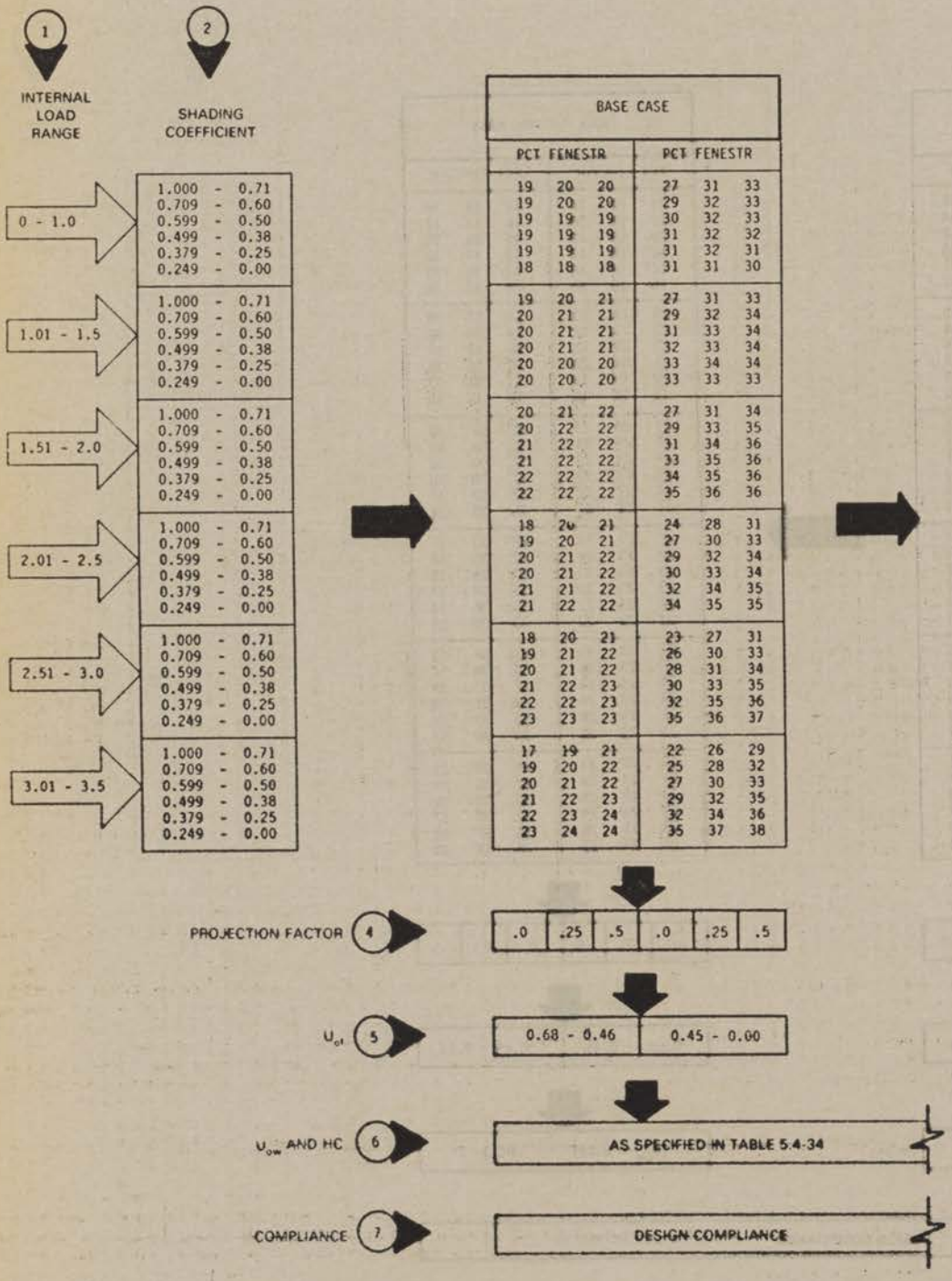
0.68 - 0.46	0.45 - 0.00

U_{OW} = 0.067 HC $\geq$ 7

DESIGN COMPLIANCE

ALTERNATE COMPONENT PACKAGES FOR:

HDD50 = 5001-6500
CDD65 = 0-1150
VSEW = 560-845
CDH80 = N/A



BASE CASE					
PCT FENESTR			PCT FENESTR		
19	20	20	27	31	33
19	20	20	29	32	33
19	19	19	30	32	33
19	19	19	31	32	32
19	19	19	31	32	31
18	18	18	31	31	30
19	20	21	27	31	33
20	21	21	29	32	34
20	21	21	31	33	34
20	21	21	32	33	34
20	20	20	33	34	34
20	20	20	33	33	33
20	21	22	27	31	34
20	22	22	29	33	35
21	22	22	31	34	36
21	22	22	33	35	36
22	22	22	34	35	36
22	22	22	35	36	36
18	20	21	24	28	31
19	20	21	27	30	33
20	21	22	29	32	34
20	21	22	30	33	34
21	21	22	32	34	35
21	22	22	34	35	35
18	20	21	23	27	31
19	21	22	26	30	33
20	21	22	28	31	34
21	22	23	30	33	35
22	22	23	32	35	36
23	23	23	35	36	37
17	19	21	22	26	29
19	20	22	25	28	32
20	21	22	27	30	33
21	22	23	29	32	35
22	23	24	32	34	36
23	24	24	35	37	38

TABLE NUMBER: 5.A-31

INCLUDING THE FOLLOWING EXAMPLE CITIES:

Bismarck ND
Caribou ME
Duluth MN
Fargo ND
Glasgow MT
International Falls MT
Minot ND
Sault Sainte Marie MI

3

HIGH PERFORMANCE GLAZING					
PCT FENESTR			PCT FENESTR		
31	36	39	51	57	60
34	38	40	55	59	60
36	39	41	56	59	60
37	39	40	57	59	59
38	39	39	57	59	59
38	38	38	51	51	51
30	35	39	51	57	61
34	38	41	55	60	63
36	40	42	57	61	63
38	41	42	59	61	63
40	41	42	59	62	63
40	41	41	58	58	58
29	35	39	50	57	62
33	38	42	55	61	65
36	40	43	57	63	66
38	42	44	60	64	66
41	43	44	61	64	66
43	44	45	65	65	65
26	31	36	45	52	58
30	35	38	50	56	61
32	37	40	53	58	62
35	39	41	56	61	63
38	41	43	57	61	64
41	43	44	66	66	66
25	30	35	43	51	57
29	34	38	49	56	61
31	36	40	52	58	62
34	38	42	56	61	65
38	41	44	57	62	65
42	44	45	71	71	71
23	28	33	41	48	55
27	32	36	46	53	59
30	35	39	50	56	61
33	37	41	54	60	64
37	41	43	55	61	65
42	44	46	76	76	76

WALL THERMAL MASS					
PCT FENESTR			PCT FENESTR		
21	22	22	31	34	36
21	22	22	33	35	36
21	21	21	34	35	36
21	21	21	34	35	35
21	20	20	34	34	34
20	20	20	33	33	33
22	23	23	30	34	37
22	23	23	33	36	37
22	23	23	34	36	37
22	23	23	35	36	37
22	22	22	36	36	37
22	22	22	36	36	36
22	24	24	30	34	37
23	24	25	32	36	38
23	24	25	34	37	39
24	24	24	36	38	39
24	24	24	37	39	39
24	24	24	38	39	39
20	22	23	27	31	34
22	23	24	30	33	36
22	23	24	32	35	37
23	24	24	34	36	38
23	24	24	35	37	38
24	24	24	37	38	39
20	22	24	26	30	34
22	23	25	29	33	36
23	24	25	31	35	37
23	25	25	33	36	38
24	25	26	36	38	40
25	26	26	38	40	41
19	22	24	24	29	33
21	23	25	27	32	35
22	24	25	30	34	37
23	25	26	32	36	38
25	26	26	35	38	40
26	27	27	39	41	42

.0	.25	.5	.0	.25	.5

0.38 - 0.29	0.28 - 0.00

AS SPECIFIED IN TABLE 5.4-34

.0	.25	.5	.0	.25	.5

0.68 - 0.46	0.45 - 0.00

U_{ow} = 0.063 HC $\geq$ 7

DESIGN COMPLIANCE

TABLE NUMBER: 5.A-32

INCLUDING THE FOLLOWING EXAMPLE CITIES:

Adak AK	Homer AK	Kodiak AK
Annette AK	Juneau AK	Yakutat AK

HIGH PERFORMANCE GLAZING					
PCT FENESTR			PCT FENESTR		
36	38	37	55	54	52
36	37	35	53	51	48
36	35	33	51	48	45
34	32	30	47	45	42
31	29	28	47	44	42
27	26	25	31	31	31
35	38	38	55	55	54
36	37	36	54	53	51
36	36	35	53	51	49
35	34	33	50	48	46
33	32	30	50	48	46
30	29	28	35	35	35
34	38	39	54	57	56
36	38	38	55	55	54
37	37	36	54	54	52
36	36	35	53	51	50
35	34	33	52	51	49
32	31	31	39	39	39
32	35	36	51	53	53
34	35	36	52	52	52
34	35	35	51	51	50
34	34	34	51	50	49
34	33	32	50	50	48
32	31	30	40	40	40
34	39	41	56	60	61
37	40	41	58	60	61
38	40	41	59	60	60
39	40	40	59	59	58
39	39	39	59	59	58
38	38	37	50	50	50
36	41	44	59	64	67
39	43	45	62	66	67
41	44	45	64	66	67
42	44	45	65	66	66
43	44	44	65	66	66
43	43	43	59	59	59

WALL THERMAL MASS					
PCT FENESTR			PCT FENESTR		
20	19	18	34	34	33
18	17	17	33	32	31
18	17	16	32	31	29
17	16	15	31	29	27
16	15	14	28	27	25
14	14	14	25	24	23
21	20	19	34	35	34
20	19	18	34	34	33
19	18	17	33	32	31
18	17	17	32	31	30
17	17	16	30	29	28
16	16	15	27	27	26
21	21	20	34	35	35
21	20	20	34	35	34
20	20	19	34	34	33
20	19	18	34	33	32
19	18	18	32	31	30
18	17	17	30	29	28
21	21	20	32	34	34
20	20	20	33	34	33
20	20	19	33	33	33
19	19	19	33	32	32
19	18	18	32	31	30
18	18	17	30	29	29
23	24	24	34	37	38
23	23	23	36	38	38
23	23	23	37	38	38
23	23	22	37	37	37
22	22	22	37	36	36
22	21	21	35	35	35
25	26	26	35	39	41
25	26	26	38	40	41
26	26	26	39	41	41
25	26	25	40	41	41
25	25	25	40	41	40
25	25	24	40	40	39

.0	.25	.5	.0	.25	.5

0.38 - 0.29	0.28 - 0.00

AS SPECIFIED IN TABLE 5.4-34

.0	.25	.5	.0	.25	.5

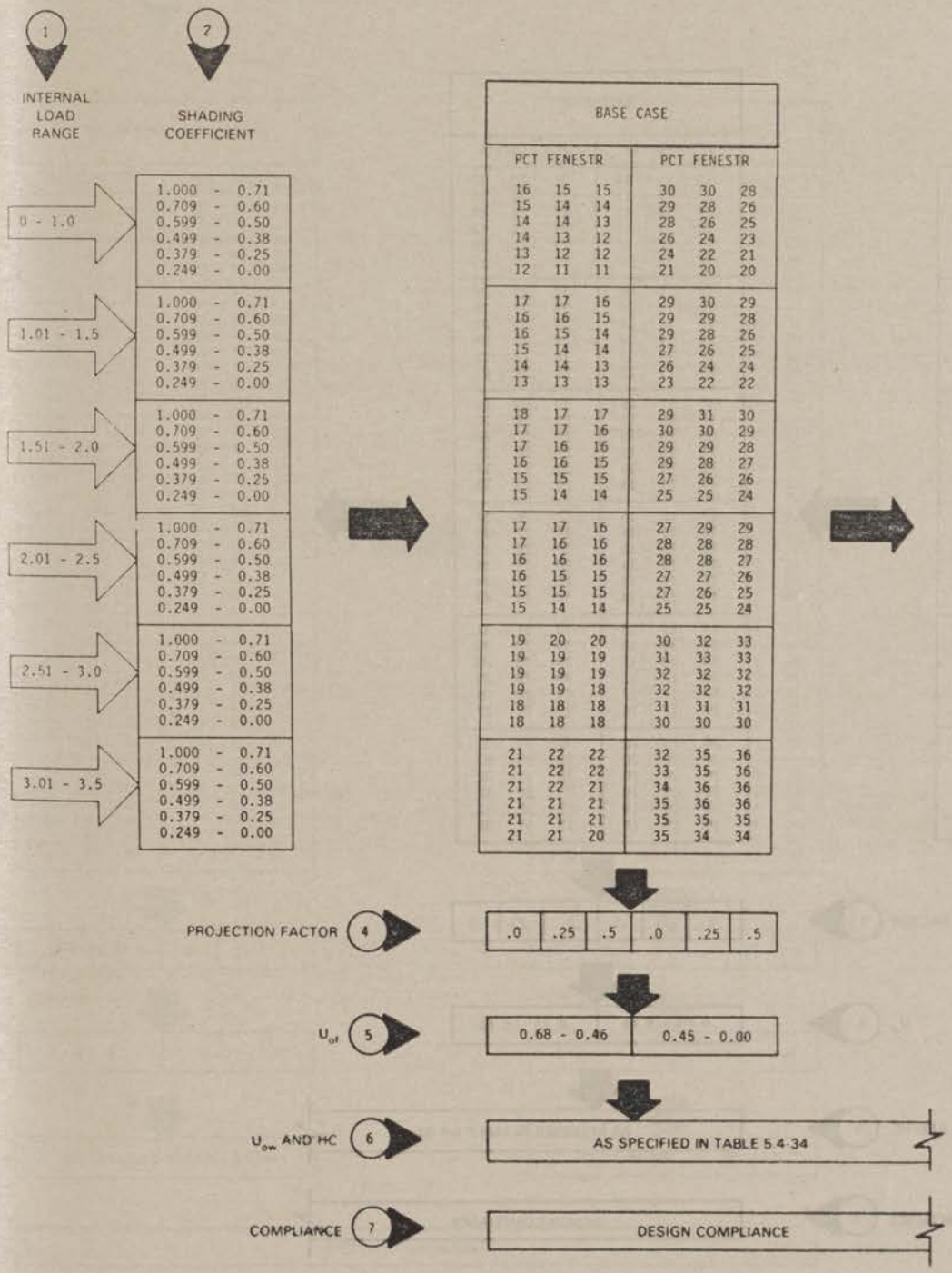
0.68 - 0.46	0.45 - 0.00

U_{ow} = 0.065 HC $\geq$ 7

DESIGN COMPLIANCE

ALTERNATE COMPONENT PACKAGES FOR:

HDD50 = 1-6500
CDD65 = <100
VSEW = <560
CDH80 = N/A



ALTERNATE COMPONENT
PACKAGES FOR:

HDD50 = >6500
CDD65 = <100
VSEW = <560
CDH80 = N/A

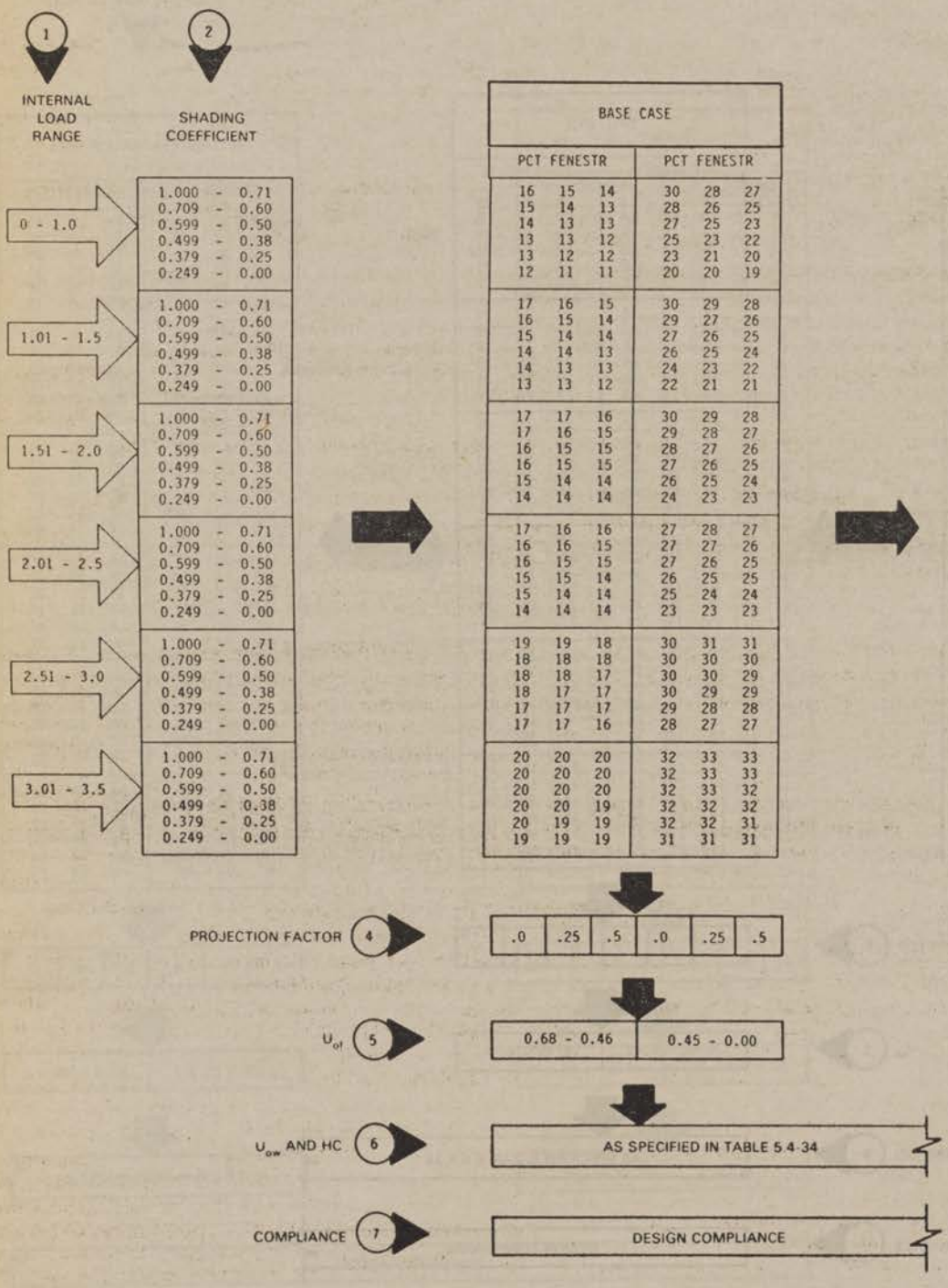


TABLE NUMBER: 5.A-33

INCLUDING THE FOLLOWING EXAMPLE CITIES:

Bethel AK	Fairbanks AK	King Salmon AK	Nome AK
Big Delta AK	Gulkana AK	McGrath AK	Summit AK

HIGH PERFORMANCE GLAZING																	
PCT FENESTR						PCT FENESTR											
37	37	35	52	49	46	36	35	32	49	46	42	35	32	30	46	43	40
33	30	28	43	40	38	30	28	26	43	40	38	26	25	24	29	29	29
36	37	36	52	50	48	36	35	33	50	48	45	35	34	32	48	46	43
34	32	30	46	43	41	31	30	28	45	43	41	28	27	26	32	32	32
36	37	36	52	52	50	36	36	35	51	49	47	36	35	33	50	48	46
34	33	32	48	46	44	33	31	30	47	45	44	30	29	28	36	36	36
33	34	34	49	49	47	33	34	33	48	47	46	33	33	32	47	46	45
33	32	31	46	44	43	31	30	30	45	44	43	29	29	28	36	36	36
35	37	38	54	54	54	37	37	37	54	54	53	37	37	37	53	53	52
37	36	36	52	52	51	36	35	35	52	51	51	35	34	33	45	45	45
37	39	40	57	58	59	39	40	40	58	58	58	39	40	40	58	58	58
40	40	40	57	57	57	39	39	39	57	57	57	39	38	38	52	52	52

WALL THERMAL MASS																	
PCT FENESTR						PCT FENESTR											
18	17	16	33	32	30	17	16	15	31	29	27	16	15	14	30	28	26
15	14	14	28	26	24	14	14	13	25	24	23	13	13	12	23	22	21
19	18	17	33	32	31	18	17	16	32	30	29	17	16	16	30	29	27
16	16	15	29	27	26	15	15	14	27	26	25	14	14	14	25	24	23
20	19	18	33	32	31	19	18	17	32	31	30	18	17	17	31	30	29
17	17	16	30	29	28	17	16	16	28	27	27	16	15	15	26	26	25
19	18	18	30	31	30	18	18	17	30	30	29	18	17	17	30	29	28
17	17	16	29	28	27	17	16	16	28	27	26	16	16	15	26	26	25
21	21	20	33	34	34	21	20	20	33	33	33	20	20	20	33	33	32
20	20	19	33	32	32	19	19	19	32	31	31	19	19	18	31	30	30
22	23	22	34	35	36	22	22	22	35	36	36	22	22	22	35	36	36
22	22	22	35	35	35	22	22	21	35	35	34	21	21	21	34	34	34

.0	.25	.5	.0	.25	.5

0.38 - 0.29	0.28 - 0.00

AS SPECIFIED IN TABLE 5.4-34

.0	.25	.5	.0	.25	.5

0.68 - 0.46	0.45 - 0.00

U_{OW} = 0.048 HC $\geq$ 7

DESIGN COMPLIANCE

BILLING CODE 6450-01-C

TABLE 5.4-34.—REQUIRED MAXIMUM OPAQUE WALL U_o VALUES FOR ACP TABLES 5.4-4 TO 5.4-33

ACP Table	For base case, perimeter daylighting or high performance glazing								For wall thermals mass (For HC >= 7)
	Interior insulation				Exterior insulation				
	HC<5	HC>5	HC>10	HC>15	HC<5	HC>5	HC>10	HC>15	Only for insulation exterior to mass
5.4-4	1.00								1.00
5.4-5	1.00				1.00				1.00
5.4-6	0.10	0.11	0.13	0.15	0.10	0.15	0.19	0.22	0.10
5.4-7	0.15	0.23	0.39	0.54	0.15	0.39	0.55	0.62	0.15
5.4-8	0.24	0.50	0.80	0.80	0.24	0.80	0.80	0.80	0.24
5.4-9	0.15	0.18	0.25	0.33	0.15	0.25	0.34	0.38	0.15
5.4-10	0.15	0.19	0.27	0.37	0.15	0.27	0.38	0.41	0.15
5.4-11	0.19	0.22	0.33	0.44	0.19	0.35	0.43	0.48	0.19
5.4-12	0.20	0.22	0.32	0.43	0.20	0.35	0.44	0.47	0.20
5.4-13	0.18	0.22	0.28	0.35	0.18	0.28	0.36	0.39	0.18
5.4-14	0.48	0.58	0.74	0.80	0.48	0.71	0.80	0.80	0.48
5.4-15	0.31	0.36	0.45	0.51	0.31	0.44	0.51	0.54	0.31
5.4-16	0.10	0.10	0.12	0.13	0.10	0.14	0.17	0.18	0.10
5.4-17	0.11	0.11	0.14	0.16	0.11	0.16	0.20	0.22	0.11
5.4-18	0.10	0.11	0.14	0.16	0.10	0.16	0.20	0.22	0.10
5.4-19	0.12	0.13	0.16	0.19	0.12	0.18	0.22	0.24	0.12
5.4-20	0.12	0.13	0.16	0.19	0.12	0.18	0.22	0.24	0.12
5.4-21	0.13	0.14	0.16	0.19	0.13	0.18	0.22	0.24	0.13
5.4-22	0.10	0.10	0.11	0.12	0.10	0.13	0.15	0.16	0.10
5.4-23	0.085	0.09	0.099	0.10	0.085	0.11	0.13	0.13	0.085
5.4-24	0.089	0.087	0.11	0.13	0.089	0.13	0.16	0.17	0.089
5.4-25	0.10	0.11	0.12	0.14	0.10	0.14	0.16	0.17	0.10
5.4-26	0.094	0.097	0.11	0.13	0.094	0.13	0.16	0.16	0.094
5.4-27	0.077	0.081	0.088	0.095	0.077	0.10	0.11	0.12	0.077
5.4-28	0.071	0.073	0.080	0.085	0.071	0.094	0.10	0.11	0.071
5.4-29	0.076	0.081	0.092	0.10	0.076	0.11	0.13	0.14	0.076
5.4-30	0.067	0.078	0.078	0.085	0.067	0.10	0.12	0.12	0.067
5.4-31	0.063	0.065	0.069	0.073	0.063	0.081	0.091	0.094	0.063
5.4-32	0.065	0.065	0.069	0.071	0.065	0.081	0.097	0.11	0.065
5.4-33	0.048	0.048	0.049	0.051	0.048	0.059	0.062	0.062	0.048

5.5 Building Envelope—System Performance Compliance Alternative.

The Minimum Requirements of section 5.3 shall be used with this section. The Prescriptive Compliance Alternative in section 5.4 may be used instead of this section. That portion of the external envelope enclosing atria is not covered by the envelope criteria of this section if the atria is unconditioned and is thermally isolated from conditioned spaces.

5.5.1 General.

5.5.1.1 For buildings with high internal heat gains, unusual operating schedules, or that apply innovative design strategies not covered in this subsection, consideration shall be given to using the provisions of section 11.0 and 12.0.

5.5.2 Roof Thermal Transmittance Criteria.

5.5.2.1 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

5.5.2.2 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:

5.5.2.2.1 The opaque roof thermal transmittance U_{or} value does not exceed the value determined by Equation 5.5–1.

5.5.2.2.2 Skylight areas, including framing, as a percentage of the roof area do not exceed the values specified in Tables 5.5–1A and 5.5–1B for building sites located within the climate ranges listed in the Tables, where Visible Transmittance (VT) is the transmittance of a particular glazing material for the visible portion of the solar spectrum. (Skylight areas shall be interpolated between visible transmittance values of 0.75 and 0.50, only.)

5.5.2.2.3 The skylight area for which 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.

TABLE 5.5-1A—MAXIMUM PERCENT SKYLIGHT AREA (VT=0.75)

HDD65	CDH80	Light level in FC	Maximum percent of skylight area for various lighting power densities		
			<1.0W/ft²	1.0-2.5W/ft²	>2.5W/ft²
0-2999	0-9999	30	2.3	1.6(W/ft-1.0)+2.3	4.7
		50	3.1	2.4(W/ft-1.0)+3.1	6.7
		70	4.3	2.4(W/ft-1.0)+4.3	7.9
0-2999	>10,000	30	2.2	1.2(W/ft-1.0)+2.2	4.0
		50	2.3	1.6(W/ft-1.0)+2.3	4.7
		70	2.9	2.4(W/ft-1.0)+2.9	6.5
3000+	All	30	2.3	2.2(W/ft-1.0)+2.3	5.6
		50	2.5	3.0(W/ft-1.0)+2.5	7.0
		70	2.8	3.6(W/ft-1.0)+2.8	8.2

TABLE 5.5-1B.—MAXIMUM PERCENT SKYLIGHT AREA (VT=0.50)

HDD65	CDH80	Light level in FC	Maximum percent of skylight area for various lighting power densities		
			<1.0W/ft²	1.0-2.5W/ft²	>2.5W/ft²
0-2999	0-9999	30	3.6	2.4(W/ft-1.0)+3.6	7.2
		50	4.8	3.6(W/ft-1.0)+4.8	10.2
		70	6.6	3.6(W/ft-1.0)+6.6	12.0
0-2999	>10,000	30	3.3	1.8(W/ft-1.0)+2.3	6.0
		50	3.6	2.4(W/ft-1.0)+3.6	7.2
		70	4.2	3.6(W/ft-1.0)+4.2	7.6
3000-8000	All	30	3.6	3.0(W/ft-1.0)+3.6	8.1
		50	3.9	4.2(W/ft-1.0)+3.9	10.2
		70	4.2	5.4(W/ft-1.0)+4.2	12.3

5.5.2.2.4 Skylight areas that overlap areas that have already taken daylight credit (perimeter window areas or other skylight areas) cannot again take daylight credit.

5.5.2.2.5 All electric lighting fixtures within skylight areas shall be controlled by daylight-activated automatic lighting controls.

5.5.2.2.6 For buildings located in climates that have less than 8000 HDD65, the overall thermal transmittance of the skylight assembly, including framing, shall be less than or equal to 0.7 Btu/h·ft²·F°. For locations greater than 8000 HDD65, the overall thermal transmittance of the skylight assembly, including framing, shall be less than or equal to 0.45 Btu/h·ft²·F°.

5.5.2.2.7 Skylight curbs have thermal transmittance (U) values no greater than 0.21 Btu/hr·ft²·F°.

5.5.2.2.8 The infiltration coefficient of the skylights does not exceed 0.05 cfm/ft².

5.5.2.3 Skylight areas in Tables 5.5-1A and 5.5-1B 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.

5.5.2.4 The effects of roof absorptivity/reflectivity and strategies for external shading of roof surfaces shall be evaluated.

5.5.2.5 Areas for vertical glazing in clerestories and roof monitors shall be included in the wall fenestration calculation.

5.5.2.6 Buildings with roof assembly devices that cannot be evaluated under this subsection shall be evaluated using the Building Energy methods of section 11.0 or 12.0.

5.5.3 Floor Thermal Transmittance Criteria.

5.5.3.1 The floors of any building that is heated and/or mechanically cooled shall meet the following thermal criteria:

5.5.3.1.1 Floors of conditioned spaces over unconditioned spaces shall have a thermal transmittance (U_o) not greater than that specified in Figure 5.5-1.

5.5.3.1.2 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. For heated slabs, an R of 2 shall be added to the thermal resistance required in Figure 5.5-2.

(a) Vertical insulation is not required. There are no insulation requirements for slabs in locations having less than 3,000 HDD Base 65F° or for footings extending less than 18 inches below grade.

5.5.4 Thermal Transmittance Criteria for Walls Enclosing Conditioned Spaces Exposed to Interior Unconditioned Spaces.

5.5.4.1 All 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.

5.5.5 Thermal Resistance Criteria for Exterior Wall Insulation Below Grade.

5.5.5.1 The thermal resistance (R) of the insulation calculated in accordance with Chapter 25 of the *ASHRAE Handbook, 1985 Fundamentals Volume* shall not be less than that specified in Figure 5.5-4. No insulation is required for climates with less than 3000 HDD Base 65F°.

5.5.6 External Wall Criteria for Heating and Cooling.

5.5.6.1 The external wall heating criteria (WC_h) and cooling criteria (WC_c) shall be determined for a building envelope design using Equations 5.5-2 and 5.5-6 in Attachment A.

5.5.6.2 The external wall heating and cooling criteria are determined for each exterior wall orientation of a building using the interior lighting and equipment power densities for the building, as determined by sections 3.0 and 6.0.

5.5.6.3 A computer-based procedure, such as the example micro computer-based spreadsheet program in Appendix B, is the preferred method to perform the calculations required to determine WC_h and WC_c for a particular climate location and building envelope design.

Figure 5.5–1.—Maximum Overall Thermal Transmittance for Floors of Conditioned Spaces Over Unconditioned Spaces

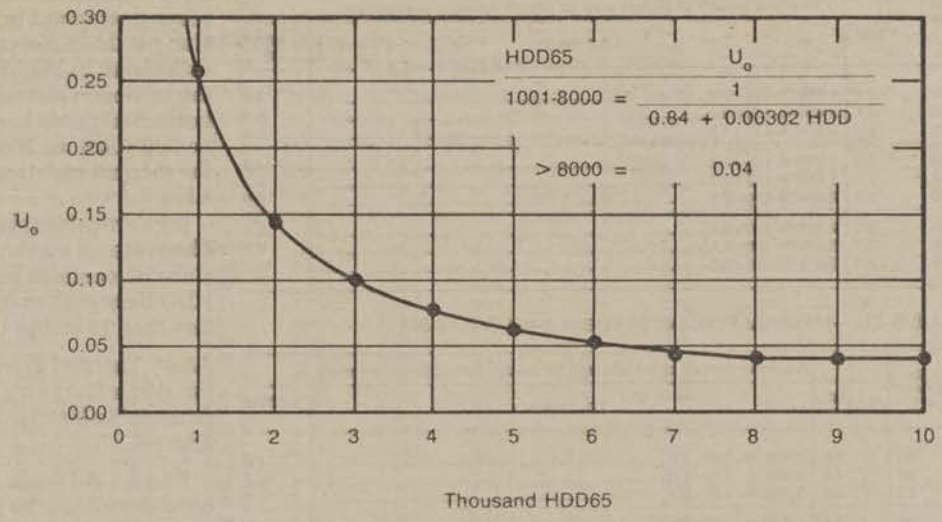
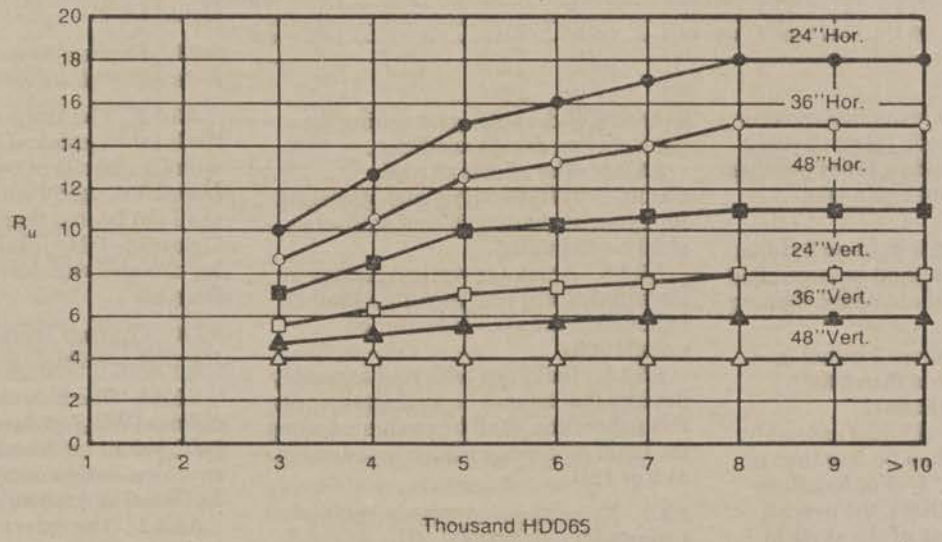
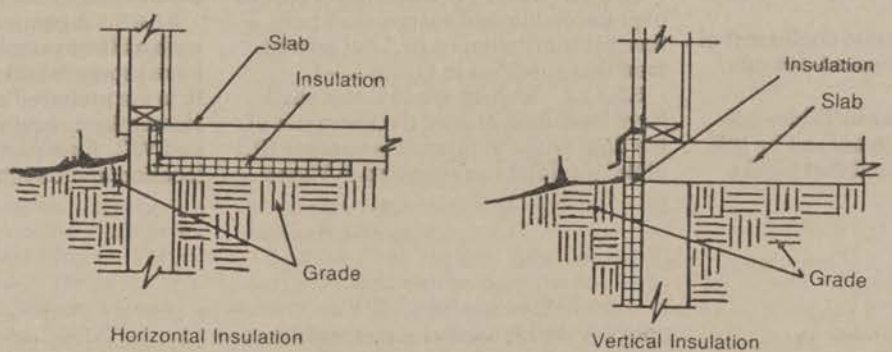


Figure 5.5–2.—Thermal Resistance of Insulation for Unheated Slab-On-Grade Floors





Note.—For heated slab-on-grade, increase the thermal resistance of the insulation by R–2 from that shown in Figure 5.5–3. For HDD65 < 3,000; R = 0 For HDD65 ≥ 10,000; R = 12.

Figure 5.5-3.—Maximum Overall Thermal Transmittance of Opaque Wall Sections With HC<7

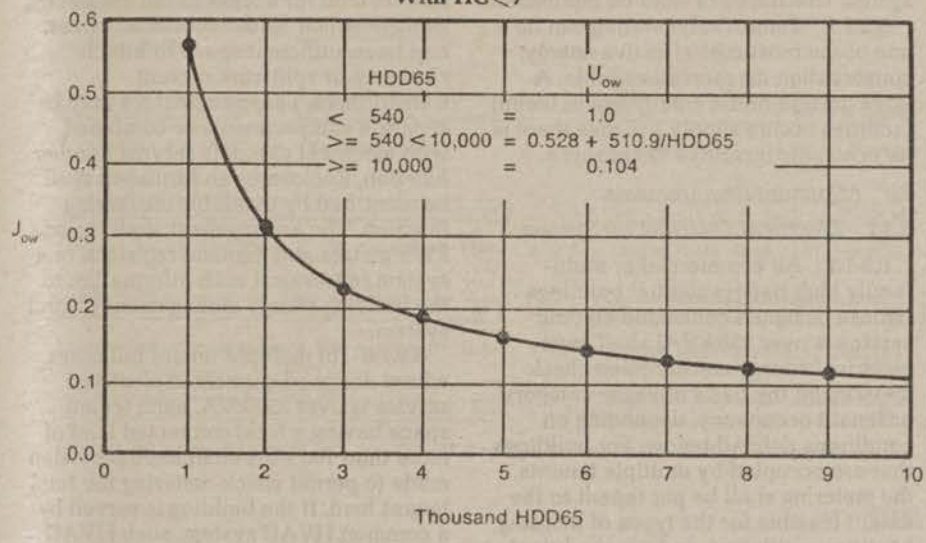
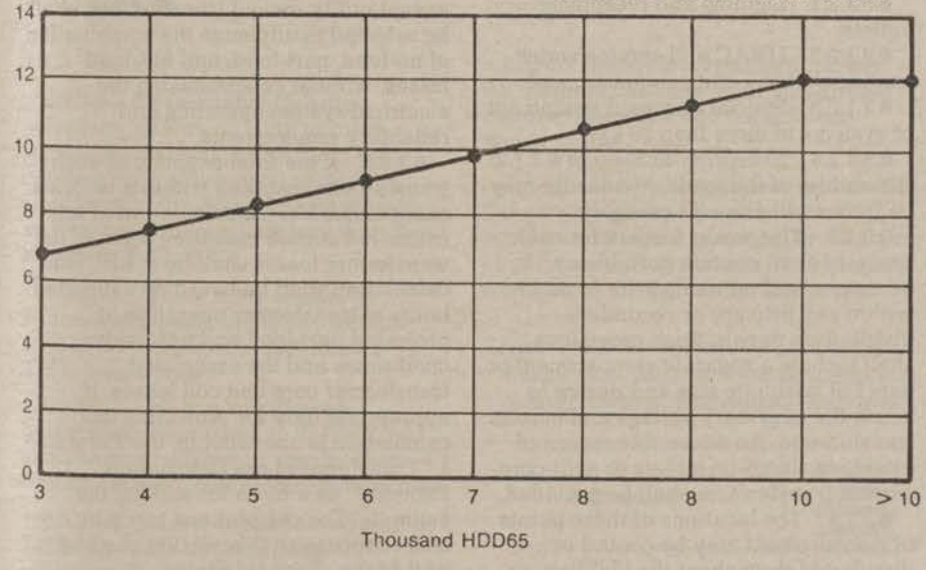


Figure 5.5-4.—Thermal Resistance of Insulation for Exterior Walls Below Grade



5.5.7 Wall Heating and Cooling Compliance Values.

5.5.7.1 The wall heating compliance value H_i and the wall cooling compliance value C_i shall be calculated using Equations 5.5–2 and 5.5–6 in Attachment A.

5.5.7.2 A computer-based procedure, such as the example micro computer-based spreadsheet program in Appendix B, is the preferred method to perform the calculations required in Equations 5.5–2 and 5.5–6.

5.5.7.3 Applying the Criteria.

5.5.7.3.1 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 5.5.7, 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 5.5.7, 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 5.5.7, shall not exceed the sum of the corresponding wall cooling criteria, WC_c for all orientations.

5.5.7.4 Constraints on Thermal Transmittance Values.

5.5.7.4.1 The compliance calculation procedure in section 5.5.7.3 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 HDD Base 65F° 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.

5.5.7.5 Constraint on Daylighting Credit.

5.5.7.5.1 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.

5.5.7.6 Lighting Power Density.

5.5.7.6.1 The Lighting Power Density used in calculating the compliance value shall be either:

(a) Building average unit Interior Lighting Power Limit in W/ft² as specified in section 3.0. (For Dwelling Units, if Table 5.4–3 is used, the limit is 0.0 W/ft² because the Interior Lighting Power Limit is included with Equipment Power Density, section 5.5.7.4), or

(b) Designed building average Lighting Unit Power Density for those activity areas within 15 feet of each exterior wall based on the procedures set forth in section 5.3.

5.5.7.7 Equipment Power Density.

5.5.7.7.1 The equipment power density used in determining compliance shall be either:

(a) The "Average Receptacle Power Densities" from Table 5.4–3, or

(b) The actual average Equipment Unit Power Density, considering diversity, in the activity areas within 15 feet of each exterior wall, not to exceed 1 W/ft².

5.5.7.8 Occupancy Loads.

5.5.7.8.1 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.

§ 435.106 Electric Power and Distribution.

6.1 General.

This section applies to all building electrical systems, except required emergency systems.

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 (whose designed connected electric service is 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 to the extent feasible for the types of building heating, ventilating, and air conditioning (HVAC) systems used.

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.

6.3.1.2.4 *Exception to Section 6.3.1.2:* 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. The arrangement shall include kWh meters and demand registers, or a system to transmit such information to the 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 the total tenant load. If the building is served by a common HVAC system, such HVAC loads need not be provided with tenant check metering.

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 such transformers installed within a building 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 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 8760hr = 4. [ ] kWh

(Full-load Rating) x (No load Loss) = (No load kW) x 8760hr = (Annual no load loss)

5. [ ] hr x 0.1 x 6. [ ] kW = 7. [ ] kWh

(Annual hr of operation @ 10% to 50% of load) x 0.1 x (Rated full load coil losses) = (Annual part load @ 10% to 50%)

8. [ ] hr x 0.5 x 9. [ ] kW = 10. [ ] kWh

(Annual hr of operation @ 50% to 80% of load) x 0.5 x (Rated full load coil losses) = (Annual part load @ 50% to 80%)

11. [ ] hr x 0.8 x 12. [ ] kW = 13. [ ] kWh

(Annual hr of operation @ 80% to 100% of load*) x 0.8 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 ½ hp or more serving the building, shall meet the requirements of this section. Motors shall have a minimum acceptable full-load motor efficiency not 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.

6.3.3.1.2 Motors of differing horsepower than listed in Table 6.3–1 shall have an efficiency greater than that of the next lower listed horsepower.

6.3.3.1.3 Motor types not covered by Table 6.3–1 are not regulated, for efficiency by this section.

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)* (Dynomometer) 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 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.

TABLE 6.3–1.—MINIMUM ACCEPTABLE FULL-LOAD MOTOR EFFICIENCIES FOR SINGLE SPEED POLYPHASE MOTORS [1]

Horsepower	Minimum rates efficiency percent
½	75
1	80
5	85
10	88
50	92
100	92.5
125 and above	93.5

[1] Motors operating more than 750 hours per year shall have efficiencies higher than listed here.

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 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.

The requirements in this section represent minimum design parameters. It is recommended that the designer evaluate other energy conservation measures that may be applicable to the proposed building.

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, may be served by systems separate from those serving areas that require comfort heating and cooling only. Alternatively, these areas may 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 weather, 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 so that they 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 nighttime precooling to reduce the use of daytime 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 efficiencies 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 psychrometric 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 psychrometric 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.

7.3 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 7.3.1.9 shall be used for calculational purposes only and are not requirements or recommendations for operating setpoints.

7.3.1.2 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 Comfort," 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.

(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 Winter and summer outdoor design conditions shall be selected for listed locations from the *ASHRAE Handbook, 1985 Fundamentals Volume*, from the columns of 99% values for winter and 2.5% values for summer. 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 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 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 Building envelope heating and cooling loads shall be based on envelope characteristics, such as thermal transmittance and resistance, shading coefficient and projection factors, consistent with the values used to demonstrate compliance with section 5.0.

7.3.1.7 Lighting loads shall be based on actual design lighting levels or power budgets consistent with section 3.0. Lighting may be ignored for heating load calculations.

7.3.1.8 Other internal 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, in the following order of preference:

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, 1984 Systems Volume;*

7.3.1.8.3 "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, 11–3A, 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 Internal heat gains may be ignored for heating load calculations.

7.3.1.9 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% of the steady-state load and 10% for cooling of the steady-state loads in addition to the 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 calculated in accordance with section 7.3.1.

7.3.2.1.1 *Exceptions section 7.3.2.1:*

(a) Equipment whose capacity exceeds the design load may be specified if calculations demonstrate that oversizing can be shown not to increase annual energy use.

(b) Stand-by equipment may be installed if controls and devices are provided that allow stand-by equipment to operate only when the primary equipment is not operating.

(c) 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.

(d) For unitary equipment with both heating and cooling capability, only one function, either the heating or the cooling, need meet the requirements of this section. Capacity for the other function shall be, within available equipment options, the smallest size necessary to meet the load.

(e) For buildings complying with section 11.0 or 12.0, equipment of higher capacity than design load may be specified if the oversized equipment is modeled in the building energy analysis of the proposed design and the proposed design meets 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 spaces requiring only comfort heating and/or cooling, or supplementary provisions shall be included so that the primary systems may 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 only, 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 of the zones is less than 1000 ft^2.

7.3.3.3 Separate air distribution systems shall be considered for areas of the building having substantially different heating or cooling load characteristics, such as perimeter zones in contrast to interior zones.

7.3.4 Temperature Controls.

7.3.4.1 Each HVAC system shall include at least one temperature control device.

7.3.4.2 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. For the purposes of this section, a major exposure is defined as the predominant orientation of the perimeter floor area running more than 50 contiguous feet. Round buildings shall have four perimeter zones.

(2) The perimeter system heating and/or cooling supply shall be controlled by thermostat controls located within the zone(s) served by the system.

7.3.4.3 Thermostats used to control comfort heating shall be capable of being set, locally or remotely, by adjustment or selection of sensors, down to 55F°.

7.3.4.4 Thermostats used to control comfort cooling shall be capable of being set, locally or remotely, by adjustment or selection of sensors, up to 85F°.

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 up to 5F° 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 proposed building energy analysis, heating and cooling thermostat setpoints are set to the same value between 70F° and 75F° and assumed to be constant throughout the year.

(b) Special occupancy, special useage or construction code requirements where dead band controls are not appropriate, adjustable single setpoint thermostats may be used.

7.3.5 Off-hour Controls.

7.3.5.1 Each HVAC system shall have automatic control setback and/or shutdown equipment during periods of non-use or alternate use of the spaces served by the system, except for systems serving areas expected to operate continuously, where equipment with a connected load of 2kW or less may be controlled by readily accessible manual off-hour controls, or 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 system shall be equipped with a readily accessible switch or automatic control to enable volume shut-off or reduction during periods of low-use, non-use or alternate use. Motorized or gravity dampers that positively close when the system is not operating shall be provided on exhaust or outside air intakes. Dampers are not required on ventilation systems when design air flow is less than 3000 cfm or for systems that operate continuously, or when restricted by code, such as at combustion air intakes. 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 unoperative.

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 All HVAC system piping installed to serve buildings and within buildings shall be thermally insulated in accordance with Table 7.3–1 except:

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 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 335–79,* "Test Method for Steady-State Heat Transfer Properties of Horizontal Pipe Insulations," at the average temperature listed in the table. For insulating materials having conductivities more than 10% in excess of that shown in the Table 7.3.1 for the applicable fluid operating temperature range and at the average rating temperature shown, 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 = new minimum insulation thickness in inches for material with conductivity K, inches

PR = pipe actual outside radius, inches

t = insulation thickness from Table 7.3–1, inches

K = conductivity of new material at the average rating temperature indicated in Table 7.3–1 for the applicable fluid temperature range, Btu·inch/h·F°·ft^2

k = conductivity listed in Table 7.3.1 for the applicable fluid temperature range, Btu·inch/h·F°·ft^2

7.3.7.3 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).

7.3.7.4 Duct insulation is not required in any of the following cases:

7.3.7.4.1 Manufacturer installed plenums, casings or ductwork furnished as a part of HVAC equipment tested and rated in accordance with section 8.3;

7.3.7.4.2 Exhaust air ducts;

7.3.7.4.3 Ducts conveying fluids that have not been heated or cooled through the use of fossil fuels or electricity; and

7.3.7.4.4 When calculations demonstrate that heat gain and/or heat loss to or from ducts without insulation will not increase building energy use.

7.3.7.5 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.

TABLE 7.3-1.—MINIMUM PIPE INSULATION [1] (INCHES)

Piping System Type	Fluid Operating Temperature Range, F°	Insulation Conductivity B.in/F°.H.ft² at temp F°	Nominal pipe diameter (inches)					
			Run-outs [2] ≤2	>1	1.25–2	2.5–4	5&6	≥8
Heating systems (steam and hot water):								
High pressure/temp	351–450	0.32 @ 250°	1.5	2.5	2.5	3.0	3.5	3.5
Medium pressure/temp	251–350	0.29 @ 200°	1.5	2.0	2.5	2.5	3.5	3.5
Low pressure/temp	251–350	0.27 @ 150°	1.0	1.5	1.5	2.0	2.0	3.5
Low temperature	141–200	0.25 @ 125°	0.5	1.5	1.5	1.5	1.5	1.5
Low temperature	105–140	0.24 @ 100°	0.5	1.0	1.0	1.0	1.5	1.5
Steam condensate (for feedwater)	Any	0.27 @ 150°	1.0	1.5	1.5	2.0	2.0	2.0
Domestic and service hot water systems: [3]								
Hot water	105 and up	0.24 @ 100°	0.5	1.0	1.0	1.5	1.5	1.5
Cooling system: [4]								
Chilled water	40–55	0.23 @ 75°	0.5	0.5	0.75	1.0	1.0	1.0
Refrigerant or brine	< 55	0.23 @ 75°	1.0	1.0	1.5	1.5	1.5	1.5

[1] For minimum thicknesses of alternative insulation types, see section 7.3.6.2.
[2] Runouts to individual terminal units not exceeding 12 feet in length.
[3] Applies to recirculating sections of service or domestic hot water systems and first 8 feet from storage tank non-recirculating systems.
[4] The required minimum thicknesses do not consider condensation. Additional insulation and/or vapor barriers may be required to prevent condensation.

7.3.7.5.1 Ductwork designed to operate at static pressure differences greater than 3 inches 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, or equivalent; test reports shall be provided in accordance with section 6.0, 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. 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 leakage.

7.3.7.5.2 Where supply ductwork designed to operate at static pressure differences from ½ inch to 2 inches 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 inch 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.

7.3.8.3 Hydronic system balancing shall be accomplished in a manner to minimize throttling losses and then the pump impeller shall be trimmed or pump shall be adjusted to meet design flow conditions.

7.3.8.3.1 *Exception to Section 7.3.8.3:* (a) Valve throttling may be used for balancing for pumps with motors of 10 HP and less, or if throttling results in pump horsepower draw no greater than 3 HP above that required if the impeller were trimmed.

7.3.8.4 HVAC control systems shall be tested to assure that control elements are calibrated, adjusted, and in proper working condition.

TABLE 7.3-2.—MINIMUM DUCT INSULATION [1]

Duct location	Cooling [2]		Heating [3]	
	Annual cooling degree days base 65F°	Insulating R-value [4] ft²·H·F°/Btu	Annual heating degree-days base 65F°	Insulation R-value [4] ft²·H·F°/Btu
Outside of building envelope or in spaces vented to the outside	<500	3.3	<1500	3.3.
	500–1500	5.0	1500–4500	5.0.
	1501–2500	6.5	4501–7500	6.5.
	>2500	8.0	>7500	8.0.
Inside of building envelope, TD [5] <15		None required		None required.
Inside of building envelope, TD [5] >15 <30		3.3		3.3.
Inside of building envelope, TD [5] >30		5.0		5.0.

[1] Insulation R-values shown are for the insulation only and do not include film resistance. The required minimum thicknesses do not consider condensation. Additional insulation and/or vapor barriers may be required to prevent condensation. For ducts that 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 6.0.

[2] Cooling ducts are those designed to convey mechanically cooled 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*, at a mean temperature of 75F°.

[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.

7.4 Heating, Ventilation and Air-Conditioning (HVAC) Systems—Prescriptive Compliance Alternative.

7.4.1 General.

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7.4.2 Zone Controls.

7.4.2.1 Zone thermostatic and humidistatic controls be capable of operating in sequence the supply of heating and cooling energy to the zone. The controls shall prevent:

7.4.2.1.1 Reheating (heating air that is cooler than system mixed air);

7.4.2.1.2 Recooling (cooling air that is warmer than system mixed air);

7.4.2.1.3 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

7.4.2.1.4 Other simultaneous operation of heating and cooling systems to one zone.

7.4.2.2 The following shall not be subject to zone control requirements of section 7.4.2.1:

7.4.2.2.1 Variable air volume systems, shall be 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: 30% of the peak supply volume; the minimum volume allowed to meet the ventilation requirements of section 7.3.1.4; and 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;

7.4.2.2.2 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 7.4.2.2.1 above;

7.4.2.2.3 At least 75% of the energy for reheating or providing warm air in mixing systems is provided from recovered energy that would otherwise be wasted, or from non-depletable energy sources;

7.4.2.2.4 Zones where specific humidity levels are required to satisfy process needs, such as computer rooms and museums (see section 7.3.3.2); and

7.4.2.2.5 Zones with a peak supply air quantity of 300 cfm or less.

7.4.3 Economizer Controls.

7.4.3.1 Each fan shall be designed to take advantage of favorable weather conditions to reduce mechanical cooling requirements. The system shall include one but may include any of the following:

7.4.3.1.1 A fully integrated air economizer system, with either temperature or enthalpy controls, that is capable of automatically modulating outside air and return air dampers to provide up to 85% outside air for cooling.

7.4.3.1.2 A fully integrated 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 wet-bulb temperatures of 45F° 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.

7.4.3.1.3 *Exceptions to Section 7.4.3.1:*

(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 use of 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) Individual direct expansion units with a cooling capacity of 180,000 Btu/h or less may use a two-position economizer that shuts off whenever simultaneous mechanical cooling is required.

(d) 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.

(e) The system is located where the outdoor summer wet-bulb design condition (2.5% occurrence, *ASHRAE Handbook, 1985 Fundamentals Volume)* is more than 72F° and annual Fahrenheit heating degree-days (base 65F°) are less than 2,000.

(f) The total design sensible cooling load of the zones served by the system is less than 5.0 Btu/h/ft² of conditioned floor area.

(g) Systems serving residential spaces including hotel/motel rooms.

(h) 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.

(i) 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 feet of the operable openings. Automatic controls shall be provided that lockout system mechanical cooling when outdoor air temperatures are less than 60F°.

7.4.3.2 System design and economizer controls shall be such that economizer operation does not increase the building heating energy use during normal operation.

7.4.3.2.1 *Exception to Section 7.4.3.2:*

(a) At least 75% of the energy for heating is provided from site-recovered energy that would otherwise be wasted, or from nondepletable energy sources.

7.4.4 System Design Requirements.

7.4.4.1 The following design criteria apply to all HVAC fan systems used for comfort heating, ventilating and/or

cooling, except those systems with total (supply plus return) fan motor horsepowers of 10HP or less and unitary equipment for which fan energy is included in section 8.3 efficiency ratings. For the purposes of this section, the energy demand of a fan system is the sum of the demand of all fans which 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.

7.4.4.2 Constant Volume Fan Systems.

7.4.4.2.1 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.

7.4.4.3 Variable Air Volume (VAV) Fan Systems.

7.4.4.3.1 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.

7.4.4.3.2 Individual VAV fans with motors 75 HP and larger shall include controls and devices necessary to control demand to no more than 50% of design wattage at 50% of design air volume, based on manufacturer's test data.

7.4.5 Pumping System Design Criteria.

7.4.5.1 The following design criteria apply to all HVAC pumping systems used for comfort heating and/or air conditioning except total pump systems with motor horsepower of 10 HP or less. 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.

7.4.5.1.1 Piping systems shall be designed at a design friction pressure loss rate of no more than 4.0 feet of loss per 100 equivalent feet of pipe. Lower friction rates may be required for proper noise or corrosion control.

7.4.5.1.2 Pumping systems that serve control valves designed to modulate or step open and closed as a function of load, shall be designed for variable fluid flow. Minimum system flow shall be no greater than 50% of design flow. Flow may be varied using variable speed driven pumps, staged multiple pumps, or pumps riding their characteristic performance curves.

(a) *Exceptions to Section 7.4.5.1.2:*

(1) 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.

(2) Systems that serve no more than one control valve.

(3) The overall building energy use resulting from an alternative design, such as a constant flow/variable temperature pumping system, are no more than those from a variable flow system.

§ 435.108 Heating, Ventilation and Air-Conditioning (HVAC) equipment.

8.1 General.

Section 8.0 is intended to provide compliance procedures that are either fundamental to good practice or that represent the minimum acceptable state-of-the-art in the efficient use of energy in the design and operation of new buildings.

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 devices 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 Minimum Equipment Efficiency.

8.3.1.1 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.

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. This paragraph shall not eliminate the requirement for detailed part-load or application performance data.

8.3.1.3 Integrated Part-Load Value (IPLV) is the descriptor for part-load efficiency for certain types of equipment. 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. Example calculations are found in Appendix E.

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 these requirements, 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.

8.3.3 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 be provided to thermostatically control the amount of supplementary heat that is actuated at any ambient outdoor conditions. These controls must be sensitive to outdoor temperature or other means to sense building load. 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 The use of either hot gas bypass or evaporator pressure regulator controls shall be limited to those cases where evaporator coil frosting or excessive compressor cycling at partial-load conditions will occur without their use.

8.3.4 Comfort Heating Equipment.

8.3.4.1 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, blowers and heaters shall be included in the energy consumption 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. At least one copy of this information shall be furnished to the original owner.

TABLE 8.3-1.—STANDARD RATING CONDITIONS & MINIMUM PERFORMANCE, AIRCOOLED—UNITARY AIR CONDITIONERS & HEAT PUMPS [2] COOLING MODE

[<135,000 BTU/H Cooling Capacity—Electrically-Operated]

Reference standards	Category		Rating	Outdoor rating conditions	Minimum performance [1]
	BTU/H	Phase			
ARI 210-81; ARI 210/240-84; ARI 240-81; DOE Test Procedure Title 10, CFR 430, 1985.	<65,000, Cooling Capacity, Cooling Mode.	1	Seasonal		9.5 SEER.
		3	Standard	95dbF°	9.0 EER.
		3	Low Temp	82dbF°	9.5 EER.
	>65,000-<135,000, Cooling Capacity, Cooling Mode.	All	Standard	95dbF°	8.9 EER.
		All	Low Temp	82dbF°	10.0 EER.
	<65,000 Cooling Capacity, Heating Mode.	1	Seasonal		6.8 HSPF.
	>65,000-<135,000, Cooling Capacity, Heating Mode (Heat Pump).	All	High Temp	47db/43wbF°	3.0 COP.
		All	Low Temp	17db/15wb° 17db/15wbF°.	2.0 COP.

[1] For multi-capacity equipment, the minimum performance shall apply to each capacity step provided and allowed by the controls.
[2] Except package terminal air conditioners and room air conditioners.

TABLE 8.3-2.—STANDARD RATING CONDITIONS AND MINIMUM PERFORMANCE, UNITARY AIR CONDITIONERS—EVAPORATIVELY COOLED—COOLING MODE

[<135,000 Btu/H Cooling Capacity—Electrically-Operated]

Reference standards	Category (Btu/H)	Rating	Rating conditions		Minimum performance [1]
			Indoor	Outdoor	
ARI 210-81, ARI 210/240-84	<65,000	Standard	80db/67wbF°	95db/75wbF°	9.3 EER.
	>65,000-<135,000	Standard	90db/67wbF°	95db/75wbF°	10.5 EER.
	<65,000	Low Temp	80db/67wbF°	80db/67wbF°	10.0 EER.
	>65,000-<135,000	Low Temp	80db/67wbF°	80db/67wbF°	11.0 EER.

[1] For multi-capacity equipment, the minimum performance shall apply to each capacity step provided and allowed by the controls.

TABLE 8.3-3.—STANDARD RATING CONDITIONS AND MINIMUM PERFORMANCE, UNITARY AIR CONDITIONERS—WATER COOLED—COOLING MODE

[<135,000 Btu/H Cooling Capacity—Electrically-Operated)

Reference standards	Category (Btu/H)	Rating	Rating conditions		Minimum performance [1]
			Indoor air	Entering water	
ARI 210-81, ARI 210/240-84, ARI 320-85.	<65,000	Standard	80db/67wbF°	85F°	9.3 EER.
	>65,000-<135,000	Standard	80db/67wbF°	85F°	10.5 EER.
	>65,000	Low Temp	80db/67wbF°	75F°	10.2 EER.

TABLE 8.3-3.—STANDARD RATING CONDITIONS AND MINIMUM PERFORMANCE, UNITARY AIR CONDITIONERS—WATER COOLED—COOLING MODE—Continued

[<135,000 Btu/H Cooling Capacity—Electrically-Operated)

Reference standards	Category (Btu/H)	Rating	Rating conditions		Minimum performance [1]
			Indoor air	Entering water	
ARI 325-85	<135,000, Ground Water Cooled	Standard		70F°	11.0 EER
		Low Temp		50F°	11.5 EER.

[1] For multi-capacity equipment, the minimum performance shall apply to each capacity step provided and allowed by the controls.

TABLE 8.3-4.—STANDARD RATING CONDITIONS AND MINIMUM PERFORMANCE, PACKAGED AIR CONDITIONER—HEAT PUMPS—ROOM AIR CONDITIONERS, AIR COOLED—ELECTRICALLY-OPERATED

Reference standards	Category	Rating	Rating Condition (outdoor temperature)	Minimum Performance [1]
ARI 310-85; ARI 380-85	PTAC & PTAC HP, Cooling Mode [2].	Standard	95dbF°	{10.0-(0.16 x Cap.) (1000) } Btu/h) EER.
		Low Temp.	82dbF°	{12.2-(0.2 x Cap.) (1000) } (Btu/h) EER
	PTAC HP, Heating Mode	Standard	47db/43wbF°	2.6 COP
ANSI/AHAM RAC-1-1982.	<9,000 Btu/h, Cooling Mode	Standard	95dbF°	9.0 EER
	>9,000 Btu/h, Cooling Mode	Standard	95dbF°	8.0 EER

[1] For multi-capacity equipment, minimum performance shall apply to each capacity step provided and allowed by the controls.
[2] For calculations, 7,000 Btu/h≤ capacity <15,000 Btu/h.

TABLE 8.3-5.—STANDARD RATING CONDITIONS AND MINIMUM PERFORMANCE HEAT PUMPS—WATER SOURCE—HEATING MODE (<135,000 BTU/H COOLING CAPACITY—ELECTRICALLY-OPERATED)

Reference standard/category	Rating	Rating conditions [2]		Minimum Performance [1]
		Entering water	Maximum entering indoor Air	
ARI 325-81, Ground Water Source	High Temperature	70F°	70db/60wbF°	3.4 COP
	Low Temperature	50F°	70db/60wbF°	3.0 COP
ARI 320-85, Water Source, Other	Standard	70F°	70db/60wbF°	3.8 COP

[1] For multi-capacity equipment, minimum performance shall apply to each capacity step provided and allowed by the controls.
[2] Water flow per manufacturers specifications.

TABLE 8.3-6.—STANDARD RATING CONDITIONS AND MINIMUM PERFORMANCE, LARGE UNITARY AIR CONDITIONING AND HEAT PUMPS (≥135,000 Btu/H Cooling Electrically-Operated)

Reference standard	Category		Minimum Performance			
	Equipment	Cooling medium	EER	IPLV	COP(47)	COP(17)
ARI 360-85	Air Conditioners	Air	8.5	7.5		
		Water/Evap	9.6	9.0		
ARI 340-85	Heat Pumps	Air, Cooling & Heating	8.5	7.5	2.9	2.0
ARI 365-85	Condensing Units	Air	9.9	11.0		
		Water/Evap	12.9	12.9		

TABLE 8.3-7—STANDARD RATING CONDITIONS AND MINIMUM PERFORMANCE, CENTRIFUGAL—ROTARY (SCREW)—RECIPROCATING WATER CHILLING PACKAGES, ELECTRICALLY-OPERATED

Reference Standards	Category			Minimum Performance	
	Operation	Cooling	Size	COP	IPLV
ARI 550-83	Centrifugal	Air	All	2.45	2.45
		Water	<250 Tons	5.0	5.1
		Water	>250 Tons	5.2	5.3
	Rotary (Screw)	Air	All	2.45	2.45
		Water	All	4.25	4.5
ARI 590-81	Reciprocating	Air—With Condenser	All	2.7	2.8
		Air—Without Condenser	All	3.1	3.2
		Water	All	3.8	3.9

TABLE 8.3-8.—STANDARD RATING CONDITIONS AND MINIMUM PERFORMANCE, HEAT OPERATED WATER CHILLING PACKAGES, WATER COOLED CONDENSING

Reference standard	Category	Minimum performance[1]
ANSI Z21.40.1-1981 and ANSI Z21.40.1a-1982	Direct Fired	0.5 COP
ARI 560-82	Indirect Fired	0.7 COP

[1] COP=Net cooling output/total heat input, with electrical auxiliary inputs excluded.

TABLE 8.3-9—STANDARD RATING CONDITIONS & MINIMUM PERFORMANCE, BOILERS—GAS AND OIL-FIRED

Reference standards	Category		Rating	Rating conditions	Minimum performance [1] (Percent)
	Fuel	Btu/H			
DOE Test, Procedure, Title 10 CFR 430, 1985	Gas	<300,000	Seasonal	Based on Indoor Unit Installation.	80 AFUE.
	Oil	<300,000	Seasonal	Based on Indoor Unit Installation.	83 AFUE.
ANSI Z21.13-82, HI Heating Boiler STD 82; ASME PTC 4.1-74 UL 795.	Gas	>300,000	Steady-State.	Max. Rated Capacity	80 EO [2].
				Min. Rated Capacity [1]	80 EO [2].
HI Heating Boiler STD 82; ASME PTC 4.1-74; UL 726-80	Oil	>300,000	Steady-State.	Max. Rated Capacity	83 EO [2].
				Min. Rated Capacity [1]	83 EO [2].
HI Heating Boiler STD 82; ASME PTC 4.1-74; UL 726-80	Oil	>300,000	Steady-State.	Max. Rated Capacity	83 EO [3].
				Min. Rated Capacity	83 EO [2].

[1] Provided and allowed by the controls.
[2] EO = Steady-state efficiency (using higher heating value of fuel) based on stack-loss.

TABLE 8.3-10.—STANDARD RATING CONDITIONS & MINIMUM PERFORMANCE, WARM AIR FURNANCES WITH AND WITHOUT AIR CONDITIONING UNITS—WARM AIR DUCT FURNACES—UNIT HEATERS

Reference standards	Category		BTU/H	Minimum rating	Conditions	Performance [1] (Percent)
	Fuel	Type				
DOE, Test Procedure Title 10, CFR 430 1985.	Gas	Warm Air W & W/O AC.	<225,000	Seasonal	Based on Indoor Unit Installation	80 AFUE.
	Oil	Warm Air W & W/O AC.	<225,000	Seasonal	Based on Indoor Unit Installation	83 AFUE.
ANSI A21.47-83	Gas	Warm Air W & W/O AC.	>225,000	Steady-State.	Max. & Min. Rated Capacity	80 ET [2].
UL 727-80	Oil	Warm Air W & W/O AC.	>225,000	Steady-State.	Max. & Min. Rated Capacity	83 ET.
ANSI Z83.9-82	Gas	Duct Furnance	All	Steady-State.	Max. & Min. Rated Capacity	80 ET.
ANSI Z83.8-82	Gas	Unit Heaters	All	Steady-State.	Max. & Min. Rated Capacity	80 ET.
UL 781-74	Oil	Unit Heaters	All	Steady-State.	Max. & Min. Rated Capacity	83 ET.

[1] Provided and allowed by the controls.
[2] ET=Steady-state efficiency (using higher value of fuel).

§ 435.109 Service water heating systems.

9.1 General.

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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 annual energy cost.

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 the *ASHRAE Handbook, 1984 Systems 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.

9.3.2.2 Before electric resistance water heaters not used in conjunction with site recovered energy or non-depletable energy source or off-peak heating with thermal storage are specified for installation in applications where water temperatures not greater than 145F° are required, an economic evaluation shall be made on the potential benefit of using an electric heat pump water heater(s) instead of an electric resistance water heater(s). The analysis shall compare the extra costs of the heat pump unit with the benefits in reduced energy costs over the lifetime of the water heater.

9.3.2.3 All gas-fired 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 has an available electrical supply, the installation of such a vent damper shall not require an electrical connection. The vent damper shall be approved for installation on gas water heaters and shall be installed in accordance with local codes.

9.3.2.3.1 *Exceptions to Section 9.3.2.3:*

(a) Climates with 4000 heating degree-days (base 65F°) or less.

(b) Where the cost of the damper exceeds the value of reduced energy costs over its lifetime.

9.3.2.4 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.

9.3.2.4.1 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 which effectively restricts the natural tendency of hot water to rise in the vertical pipe during periods of standby.

9.3.2.4.2 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.

TABLE 9.3–1.—STANDARD RATING CONDITIONS AND MINIMUM PERFORMANCE, WATER HEATING EQUIPMENT

Category				Test procedure	Minimum performance [1]		
Type	Fuel	Storage capacity (gal.)	Input rating		Percent efficiency	Standby loss	DOE rating
Storage	Elec	<120 [3]	<12kw	DOE—Title 10, CFR 430, 1985.			EF>0.96–0.0007V
		>120	or >12kw	ANSI Z72.10.3–84 w/1985 addenda.		<1.9W/ft [2]	
	Gas	<100 [3]	<75,000 [3] Btu/h.	DOE—Title 10, CFR 430, 1985.		EF >0.67–0.0016V.	
		>100	or, <75,000 Btu/h.	ANSI Z21.10.3–84 gas water heaters W/addenda Z21.10.3a–85.	E_t=77	<1.3+38/V.	
	Oil	<50 [3]	<75,000 [3] Btu/h.	DOE—Title 10, CFR 430, 1985.	E_r=76		EF>0.67–0.0016V
			<104,000 Btu/h.		E_c=80	<1.3+38/V.	
		>50	>104,000 Btu/h.		E_c=83	<1.3+38/V.	
Unfired storage		All volumes.	All inputs				HL<6.5 Btu/h.ft [2]
Instantaneous [2]:							
	Gas		All inputs	ANSI–Z21.10.3–84	E_t=80		
	Distilled oil		All inputs		E_c=83		

TABLE 9.3-1.—STANDARD RATING CONDITIONS AND MINIMUM PERFORMANCE, WATER HEATING EQUIPMENT—Continued

Category				Test procedure	Minimum performance [1]		
Type	Fuel	Storage capacity (gal.)	Input rating		Percent efficiency	Standby loss	DOE rating
Pool	Gas and Oil		All inputs	ANSI—Z21.56-83 W/1984 addenda.	E_t=80		

[1] Where:
EF=Energy factor, overall heater efficiency by DOE Test Procedure.
E_r=Recovery Efficiency Based on 90 F°.
E_t=Thermal efficiency with 70 F°.
E_c=Combustion efficiency, 100%—flue loss when smoke=0 (trace is permitted).
HL=Heat loss of tank surface area.
Y=Storage volume in gallons.
[2] An instantaneous Water Heater is a device with an input rate greater than 4,000 Btu/h per gallon of water and less than 10 gallons at storage capacity.
[3] All water heaters not meeting the criteria of both Storage Capacity and Impact Rating shall meet the non-DOE Efficiency and Standby Loss Requirements.

9.3.3.2 For nonrecirculating systems, the first 8 feet of piping from the storage system 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 Equipment and Controls.

9.3.4.1 Service water heating systems shall be equipped with temperature controls capable of adjustment from 90F° to a temperature setting compatible with intended use. (See *ASHRAE Handbook, 1984 Systems Volume*, Chapter 34, Table 2).

9.3.4.1.1 Where temperatures higher than 120F° are required for a particular intended use, separate remote heaters or booster heaters shall be installed at the point of use unless the system designer can demonstrate 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 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.

9.3.4.2 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*. Removeable flow restricting inserts shall not be used in showerheads to meet this criterion. The designer shall evaluate the use of lower flow showerheads than 2.75 gpm, particularly for heavily used facilities.

9.3.4.3 Lavatories in public restrooms, with the exception of lavatories for physically handicapped persons, shall be equipped with devices that:

9.3.4.3.1 Limit the flow of hot water to a maximum of 0.5 gpm, or 0.75 gpm if a self-closing valve is used;

9.3.4.3.2 Limits delivery with a self-closing valve or a foot switch to a maximum of 0.25 gallons of hot water for circulating systems;

9.3.4.3.3 Limits delivery with a self-closing valve or a foot switch to a maximum of 0.50 gallons for non-circulating systems; and

9.3.4.3.4 Is equipped with a device that limits the outlet temperature to a maximum 110F°.

9.3.4.4 Before electric resistance water heaters are specified for installation in applications where water temperatures not greater than 145F° 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 over the lifetime of the water heater.

9.3.4.5 All gas-fired water heaters that use indoor air for combustion or draft hood dilution and that are installed in the same venting system with a gas furnace in a conditioned room shall be equipped with a vent damper, except in climates with 4,000 heating degree-days (base 65F°) or less.

9.3.5 Swimming Pools.

9.3.5.1 All pool heaters shall meet the criteria of Table 9.3–1 and be equipped with an on-off switch mounted for easy access to allow system shut-off without adjusting the thermostat setting and, when applicable, allow restarting without relighting the pilot light.

9.3.5.2 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.

9.3.5.3 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.

9.3.5.3.1 *Exceptions to section 9.3.5.3:*

(a) Where public health standards require 24 hour operation of pumps, time switches need not be installed on the pumps meeting these requirements.

(b) Pumps required to operate solar pool heating systems.

9.3.6 Combination Service Water Heating/Space Heating Equipment.

9.3.6.1 Combination space heating and service water heating equipment shall only be used when at least one of the following conditions is met:

9.3.6.1.1 Where the annual space heating energy use is less than 50% of the annual service water heating energy use.

9.3.6.1.2 Where the size of the combined boiler or water heater is less than twice of the size of the smaller of the separate boilers or water heaters required.

9.3.6.1.3 Where calculations show that the combined system uses less energy than separate systems that meet the requirements of section 8.3 and 9.3.

9.3.6.1.4 Where the input to the combined boiler is less than 150,000 Btu/h.

9.3.6.2 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.

9.3.7 Use of Waste Heat, Solar Energy, and Thermal Storage.

9.3.7.1 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.

9.3.7.2 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 should be considered for use in the condensate return line to heat or preheat the service water, cool the condensate, and prevent flashing.

9.3.7.3 Storage should 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.

This section describes the minimum 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.

10.2 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 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 by the customer.

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 and service water heating, space heating, space cooling and HVAC delivery systems.

10.3.4 All heating, cooling and HVAC delivery systems equipment, greater than 20 kVA or 60,000 Btu/h energy input, shall provide for measurement of energy inputs and outputs (flow, temperature, pressure, etc.) to determine equipment energy consumption and/or installed performance.

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 when:

10.3.5.1.1 For electrical lighting, miscellaneous power outlets, HVAC systems and equipment, service hot water, and process loads;

10.3.5.1.2 Production processes, including manufacturing, computers, laundries, kitchens, etc., peak use is greater than 100 kVA or 300,000 Btu/h;

10.3.5.1.3 Auxiliary systems and service water heating peak use is greater than 100 kVA or 300,000 Btu/h;

10.3.5.1.4 Space heating (including reheat) peak use is greater than 100 kVA or 300,000 Btu/h;

10.3.5.1.5 Space cooling peak use is greater than 100 kVA or 300,000 Btu/h; and

10.3.5.1.6 HVAC delivery systems peak use is greater than 100 kVA or 300,000 Btu/h.

10.3.5.1.7 *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 100,000 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; and

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.

10.3.8 Completion Requirements.

10.3.8.1 The 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.

10.3.8.2 The 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 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 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-situ 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. Energy management and control system provided in the building 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 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 The construction documents shall require that as-built information 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, 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 for compliance with the Standards that allows greater feasibility in the design of energy efficient buildings using an annual energy cost method. Since proposed designs may use varying amounts of different types of energy, energy cost is used as the common denominator in determining compliance. This path 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/ system performance alternatives found in sections 3.4, 3.5, 5.4, 5.5, and 7.4. This procedure is intended only for design comparisons designed for establishing design compliance 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/systems methods and in conjunction with sections 3.3, 4.3, 5.3, 6.3, 7.3, 8.3, 9.3 and 10.3.

11.1.3 Compliance under this method requires detailed energy analyses, using a conventional simulation tool, of the Proposed Design, referred to as the Design Energy Consumption; an estimate of annual energy cost for the 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 not greater than 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 the Prototype or Reference Building design configured to meet the requirements of sections 3.0 through 10.0.

11.1.4 The Energy Cost Budget is the highest allowable calculated annual energy cost for a specific building design. Designers are encouraged to design buildings whose annual energy cost is lower than that of the Energy Cost Budget since the most cost effective design strategies are available to the designer for which credit is not available under either the prescriptive or system performance compliance alternatives.

11.1.5 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.

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 11.2.4, or the Reference Building Method in section 11.2.5. Both methods calculate an annual Energy Cost by summing the monthly Energy Cost Budgets. Each Energy Cost Budget is the product of the monthly energy cost for each energy type.

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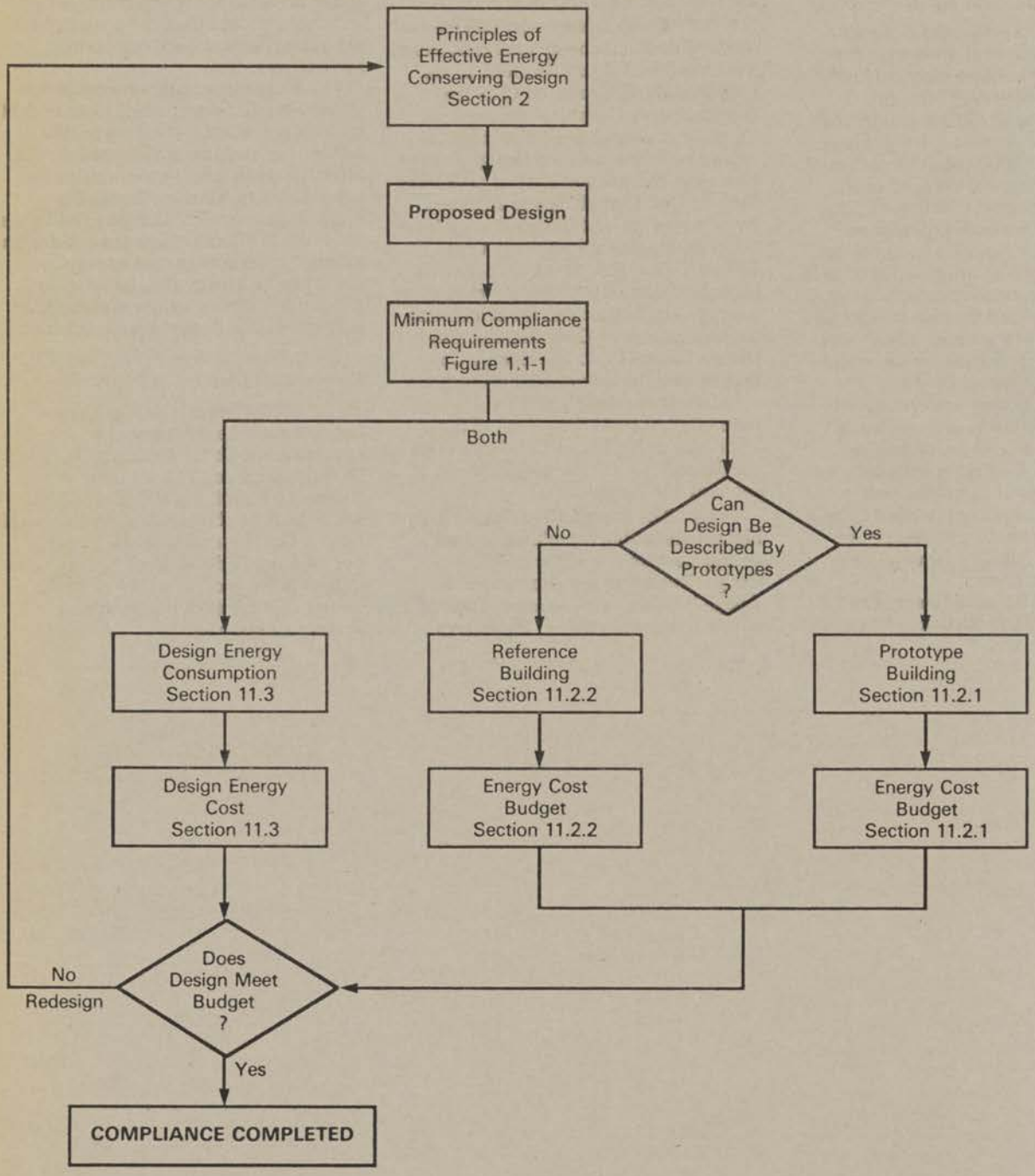
Figure 11–1.—Building Energy Cost Compliance Alternative



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11.2.2 The monthly energy cost shall be determined using current rate schedules available at the building site for all non-depletable types of energy used. 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 building. The monthly budget energy consumption shall be calculated from the first day through the last day of each month, inclusive.

11.2.3 The Energy Cost Budget, Design Energy Consumption and Design Energy Cost calculations are applicable only for determining compliance with the 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, and capabilities of the calculation tool.

11.2.4 Prototype Building Procedure.

11.2.4.1 The Prototype Building procedure shall be used for all building types listed in Table 11–1. For buildings not listed in Table 11–1, the Reference Building procedure of Section 11.2.5 shall be used.

11.2.4.1.1 Use of the Prototype Building to Determine the Energy Cost Budget.

(a) Determine the building type of the Proposed Design using the categories in Table 11–1. For mixed-use buildings, establish the percent of gross floor area allocated to each use. Using the appropriate Prototype Building characteristics from Tables 11–2 through 11–6, the building shall be simulated using the same gross floor area and number of floors for the Prototype Building as in the Proposed Design.

(b) 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/system requirements of section 3.0 through 10.0.

Table 11–1.—Prototype Building

1. Assembly—A building or structure used for the gathering together of persons, such as auditoria, churches, dance halls, gymnasia, theaters, museums, passenger depots, sports facilities and public assembly halls.

2. Office (Business)—A building or structure used for office, professional or service type transactions, such as medical offices, banks, libraries and offices.

3. Retail (Mercantile)—A building or structure used for the display and sale of merchandise.

4. Warehouse (Storage)—A building or structure used for storage such as aircraft hangars, service garages, warehouses, storage buildings and freight depots.

5. School (Educational)—A building or structure used for the gathering together of persons for the purposes of instruction, such as schools, colleges, universities and academies.

6. Hotel/Motel—A building or structure used for transient occupancy, such as resorts, hotels, motels, barracks and other transient facilities.

7. Restaurant—A building or structure used for the purposes of food and drink consumption, such as fast food, coffee shops, cafeterias, bars and restaurants.

8. Health/Institutional—A building or structure used for the purpose of providing medical treatment, confinement or care and sleeping facilities for persons who are incapable of self-preservation, such as mental institutions, reformatories, jails, prisons, hospitals, sanitariums, clinics, orphanages and nursing homes.

9. Multifamily (Residential)—A building or structure used for sleeping accommodations other than hotel/motel and health such as apartments and condominiums.

11.2.5 Reference Building Method.

11.2.5.1 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 Table 11–1 or the assumptions for the Prototype Building in section 11.5, such as occupancy and use-profiles, do not reasonably represent the Proposed Design.

11.2.5.2 Use of the Reference Building to Determine the Energy Budget.

11.2.5.2.1 Each floor shall be oriented in the same manner for the Reference Building as in the Proposed Design. The form, gross and conditioned 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.

11.2.6 Calculation Procedure and Simulation Tool.

11.2.6.1 The Prototype and 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 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. The Design Energy Cost shall be calculated by summing the monthly Design Energy Cost multiplied by the monthly Energy Costs. If the Proposed Design includes cogeneration or renewable energy sources designed for the sale of energy off-site, any proceeds from or subsidies for such an anticipated sale shall not be used to reduce the Design Energy Costs. The Design Energy Consumption 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 equal to, or less than 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 so.

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 dimension of the building shall face East and West. 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 feet except for dwelling units in hotels/motels and multi-family high-rise (residential) buildings whose floor-to-floor height shall be 9.5 feet.

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 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 Building or for calculation of Design Energy Cost.

11.5.4.2 All internal building loads, such as lighting loads, service hot water loads, internal electric distribution losses, equipment inefficiency losses, including process loads shall be addressed in the calculations.

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 11-3b, 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 Limits (ILPL), 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 3.3-4.

(b) Lighting energy profiles are shown in Table 11-3A and 11-3B 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 General Service.

(a) General service 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) General service loads include all receptacle 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 watts/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 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 characteristics of the Prototype and Reference Building envelope shall be determined by using the first column under "Base Case" for the appropriate climate range as defined in the Alternate Component Packages (ACP) in Table 5.4-1. The insulation and glazing characteristics from this ACP are Prescribed Assumptions for Prototype and Reference Buildings for calculating the Energy Cost Budget. In the calculation of 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 only perimeter zones.

11.5.5.2.2 When the heating or cooling system is on, no infiltration shall be assumed. When the HVAC system is off, the infiltration rate for buildings with or without operable windows shall be assumed to be 0.038 cfm/ft^2 of gross exterior wall. Hotels/motels and multi-family high-rise (residential) buildings shall have infiltration rates of 0.038 cfm/ft^2 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 modeled by assuming they are effective over one-half the glazing area in each zone.

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 system 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 zones per floor. Prototype Buildings shall have one perimeter zone facing each cardinal direction. The perimeter zones of Prototype and Reference Buildings shall be fifteen feet in width, or half the narrow dimension of the building, whichever is less. 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 computing 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 Building Energy Consumption 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 such that it will 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, 1984 Systems 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 When service water temperatures exceeding 145F° are required, electric resistance water heating shall be modeled instead of heat pump water heating.

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 section are prescribed assumptions.

11.5.8.2 *Exceptions to Section 11.5.8.*

11.5.8.2.1 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

11.5.8.2.2 In climates where winter design temperature (97.5% occurrence) is greater than 59F°, space heating need not be modeled.

11.5.8.3 Space temperature controls for the Prototype or Reference Building shall be set at 70F° for space heating and 75F° for space cooling with a deadband per section 7.3.4.4. 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 55F°. 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 Exception to 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 multifamily buildings shall have a night set back temperature of 60F° 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 constant value between 70F° and 75F°.

11.5.8.4 When providing for outdoor air ventilation in calculating the Energy Cost Budget, controls shall be assumed to shut-off the outside air intake during setback and unoccupied periods. Recirculation 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* 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 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.

11.6 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 the dynamic heat transfer of the building envelope such as solar and internal gains as well as equipment efficiencies as a function of load, lighting and HVAC system controls and distribution systems by simulating the whole building, the operating schedule of the building including night setback during various times of the year, and 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 Programs shall be selected for their ability to simulate accurately the relevant features of the building in question, as shown in the program's documentation. For example, a single zone program shall not be used to simulate a large, multi-zone building, and a steady-state model shall not be used to model a building whose performance depends on diurnal thermal storage. Relevant energy-related features shall be addressed by a program such as daylighting, atriums or sunspaces, night ventilation or thermal storage, chilled water storage or heat recovery, active or passive solar systems and ground-coupled buildings. In addition, programs 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 programs capable of handling such complex building systems and energy cost translations available in the United States are DOE-2.1C and BLAST 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.

TABLE 11-2.—OCCUPANCY DENSITY

Building type	Conditioned floor area (ft^2/person)
Assembly	50
Office	275
Retail	300
Warehouse	15,000
School	75
Hotel/Motel	250
Restaurant	100
Health/Institutional	200
Multifamily	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 11-3A

TABLE 11-3.—BUILDING PROFILE NUMBERS FOR THE SCHEDULES [1] IN TABLES 11-3A AND 11-3B [2], 11-3C [3]

Building type	Occupancy	Lighting and receptacle	HVAC system	SWH system
Assembly	22	63	167	96
Office	1	43	192	127
Retail	12	54	189	123
Warehouse	17	59	195	143
School	87	88	176	103
Hotel/Hotel	18	60	166	155
Restaurant	16	58	194	155
Health	14	56	166	115
Multi-Family	([4])	([4])	([4])	16

[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 11-3B 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 11-3C lists the hours when the HVAC system shall be considered "on" or "off" in accordance with section 11.5.6.4.

[4] (See Table 11-3A)

TABLE 11-3A.—MULTIFAMILY HIGHRISE BUILDING SCHEDULES (INTERNAL LOADS PER DWELLING UNIT BTU/H)

Hour	Occupant		Lights sensible	Equipment	
	Sensible	Latent		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	304	260	960	1250	190
8	210	200	840	2800	420
9	100	80	0	1170	160
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

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TABLE 11-3B
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
STANDARD PROFILE #1																									
(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
STANDARD PROFILE #12																									
(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
STANDARD PROFILE #14																									
(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
STANDARD PROFILE #16																									
(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
STANDARD PROFILE #17																									
(MULTI-FAMILY)	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
(SWH SYSTEM)	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
STANDARD PROFILE #18																									
(WAREHOUSE)	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
STANDARD PROFILE #22																									
(HOTEL/MOTEL)	WEEKDAY:	0	0	0	0	0	0	0	0	20	20	20	80	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	60	60	60	60	60	60	60	60	60	80	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	20	0	0
STANDARD PROFILE #43																									
(ASSEMBLY)	WEEKDAY:	0	0	0	0	0	0	10	30	90	90	90	90	80	90	90	90	90	50	30	30	20	20	0	0
(OCCUPANCY)	SATURDAY:	0	0	0	0	0	0	10	10	30	30	30	30	15	15	15	15	15	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 11-3B (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
STANDARD PROFILE #54																									
(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
STANDARD PROFILE #56																									
(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
STANDARD PROFILE #58																									
(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
STANDARD PROFILE #59																									
(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
STANDARD PROFILE #60																									
(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
STANDARD PROFILE #63																									
(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
STANDARD PROFILE #87																									
(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
STANDARD PROFILE #88																									
(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

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
STANDARD PROFILE #96																									
(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	50	50	20	0	0	0	0	0	0	0	65	30	0	0	0
	SUNDAY:	0	0	0	0	0	0	0	0	0	50	50	10	0	0	0	0	0	0	0	65	30	0	0	0
STANDARD PROFILE #103																									
(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
STANDARD PROFILE #115																									
(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
STANDARD PROFILE #123																									
(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
STANDARD PROFILE #127																									
(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
STANDARD PROFILE #143																									
(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
STANDARD PROFILE #155																									
(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 11-3C
BUILDING HVAC SYSTEM SCHEDULE

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
STANDARD PROFILE #166																									
(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
STANDARD PROFILE #167																									
(ASSEMBLY)	WEEKDAY:	OFF	OFF	OFF	OFF	OFF	ON	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	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	OFF
STANDARD PROFILE #176																									
(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
STANDARD PROFILE #189																									
(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	ON	OFF	OFF	OFF	OFF	OFF
STANDARD PROFILE #192																									
(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
STANDARD PROFILE #194																									
(RESTAURANT)	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	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
	SUNDAY:	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
STANDARD PROFILE #195																									
(WAREHOUSE)	WEEKDAY:	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	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

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TABLE 11-4.—RECEPTACLE POWER DENSITIES

Building type	Watts/ft² of conditioned 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 Highrise (Residential).	Included in Lights and Equipment portions of Table 11-3A.

TABLE 11-5A—HVAC SYSTEMS OF PROTOTYPE AND REFERENCE BUILDINGS [1]

Building/space occupancy	System No. (Table 11-5B)	Remarks (Table 11-5C)
Assembly:		
a. Churches (any size).	1	Note a.
b. ≤50,000 ft² or ≤3 floors.	1 or 3	Note a.
c. >50,000 ft² or >3 floors.	3	
Office:		
a. ≤20,000 ft²	1	
b. >20,000 ft² and either ≤3 floors or ≤75,000 ft².	4	
c. >75,000 ft² or >3 floors.	5	
Retail:		
a. ≤50,000 ft²	1 or 3	Note a.
b. >50,000 ft²	4 or 5	Note a.
Warehouse	1	Note d.
Schools:		
a. ≤75,000 ft² or ≤3 floors.	1	
b. >75,000 ft² or >3 floors.	3	
Hotel/Motel:		
a. ≤3 stories	2 or 7	Note e, g.
b. >3 stories	6	Note f.
Restaurant	1 or 3	Note a.
Health:		
a. Nursing Home (any size).	2 or 7	Note g.
b. ≤15,000 ft²	1	
c. >15,000 ft² and ≤50,000 ft².	4	Note b.
d. >50,000 ft²	5	Note b, c.
Multifamily Highrise (Residential) >3 stories.	7	

[1] 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 11-5B.—HVAC SYSTEM DESCRIPTION FOR PROTOTYPE AND REFERENCE BUILDINGS

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 i	Note j	Note i	Note i.
Supply fan total static pressure	1.3"W.C	N/A	2.0"W.C	3.0"W.C.
Combined supply fan, motor and drive efficiency.	40 (percent)	N/A	50 (percent)	45 (percent).
Supply fan control	Constant volume	Constant volume	Constant volume	VAV w/forward curved centrifugal fan and variable inlet vanes.
Return fan total static pressure	N/A	N/A	0.6"W.C	0.6"W.C.
Combined return fan, motor and drive efficiency.	N/A	N/A	25 (percent)	25 (percent).
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 k)	Direct expansion air cooled.
Heating System	Furnace, heatpump, or electric resistance (Note h).	Heatpump w/electric resistance auxiliary or air conditioner w/ space heater (Note h).	Hot water (Note h,1) (Note h).	Hot water (Note 1) or electric resistance.
Remarks	Drybulb economizer per Section 7.4.3.	No economizer	Drybulb economizer per Section 7.4.3.	Drybulb economizer per Section 7.4.3 Minimum VAV setting per 7.4.3.1 exception .a. Supply air reset by zone of greatest cooling demand.

TABLE 11-5B.—HVAC SYSTEM DESCRIPTION FOR PROTOTYPE AND REFERENCE BUILDING [1]—CONTINUED

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 i	Note i	Note i.
Supply fan total static pressure	4.0"W.C	0.5"W.C	0.5"W.C.
Combined supply fan, motor, and drive efficiency	55 (percent)	25 (percent)	25 (percent).
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"W.C	N/A	N/A.
Combined return fan, motor, and drive efficiency	30 (percent)	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 k)	Chilled water (Note k)	Closed circuit, centrifugal blower type cooling tower sized per Note k. Circulating pump sized for 2.7 GPM per ton.
Heating System	Hot water (Note 1) or electric resistance (Note h).	Hot water (Note 1) or electric resistance (Note h).	Electric or natural draft fossil fuel boiler (Note h).
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.

[1]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 11-5C.—HVAC System Descriptions for Prototype and Reference Buildings

Notes:

a. For occupancies such as restaurants, assembly and retail which are part of a mixed use building which, according to Table 11-5A, 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.

b. 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.

c. Provide run-around heat recovery systems for all fan systems with minimum outside air intake greater than 75%. Recovery effectiveness shall be 0.60.

d. 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.

e. 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 11-5A for these occupancy types.

f. 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 11-5A for these occupancy types.

g. System 2 shall be used for the Energy Cost Budget calculation except in areas with design heating outside air temperatures less than 10F°.

h. 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.

i. Design supply air circulation rate shall be based on a supply air to room air temperature difference of 20F°. A higher supply air temperature may be used if required to maintain a minimum circulation rate of 1.5 air changes per hour or 15 cfm per person at design conditions to each zone served by the system. If the required minimum ventilation 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.

j. 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.

k. Chilled water systems to 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 capacities 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 12F° temperature rise, from 44F° to 56F°, operating at 75 feet of head and 65% combined impeller and motor efficiency. Condenser water pumps shall be sized using a 10F° 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 85F° leaving water temperature or 10F° approach to design wetbulb temperature. The tower shall be controlled to provide a 65F° leaving water temperature whenever weather conditions permit, floating up to design leaving water temperature at design conditions.

l. Hot water system shall include a natural draft fossil fuel or electric boiler per Note h. The hot water pump shall be sized based on a 30F° temperature drop, from 180F° to 150F°, operating at 60 feet of head and a combined impeller and motor efficiency of 60%.

Table 11-6.—SERVICE HOT WATER QUANTITIES

Building type	BTU/h per person [1]
Assembly	215
Office	175
Retail	135
Warehouse	225
School	215
Hotel/Motel	1,110
Restaurant	390
Health	135
Multi-family [2]	1,700

[1] This value is the number to be multiplied by the percentage multipliers of the Building Profile Schedules in Table 11-3B. See Table 11-2 for occupancy levels.

[2] Total hot water use per dwelling unit shall be 3,400 Btu/h.

§ 435.112 Building energy compliance alternative.

12.1 General.

12.1 This section provides an alternative path for compliance with the standards that allows for greater flexibility in the design of energy efficient buildings using a 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, and 7.4.

12.1.2 The Building Annual Energy 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 building design is equal to or less than a calculated annual energy target. (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.

12.1.4 Compliance under the Building Annual Energy Target 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 Annual Energy Use.

12.1.5 The Design Annual Energy Use is defined as the energy that is consumed within the five foot line of a proposed building per square foot per year over a 24 hour day, 365-day year period and specified operating hours. The calculated Design Annual Energy Use is then compared to a calculated Annual Energy Target.

12.1.6 The Annual Energy Target is determined by calculating the annual energy usage for a Reference or a Prototype that is configured to comply with these standards. The Prototype or Reference building models shall comply with section 11.0 of these standards, with the exception 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 Annual Energy Use is equal to or less than the Annual Energy Target then the proposed design complies with these standards.

12.1.7 This section provides instructions for determining the Design Annual Energy Use and for calculating the Annual Energy Target. The Annual Energy Target is the highest allowable calculated annual energy consumption for a specified building design. Designers are encouraged to design buildings whose Design Annual Energy Use is lower than the Annual Energy Target. 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.

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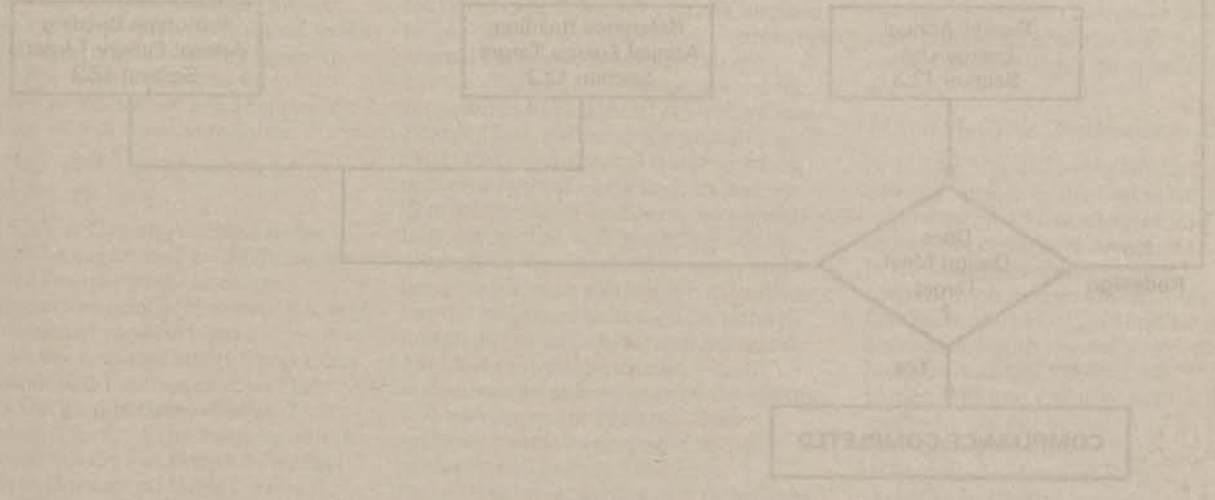
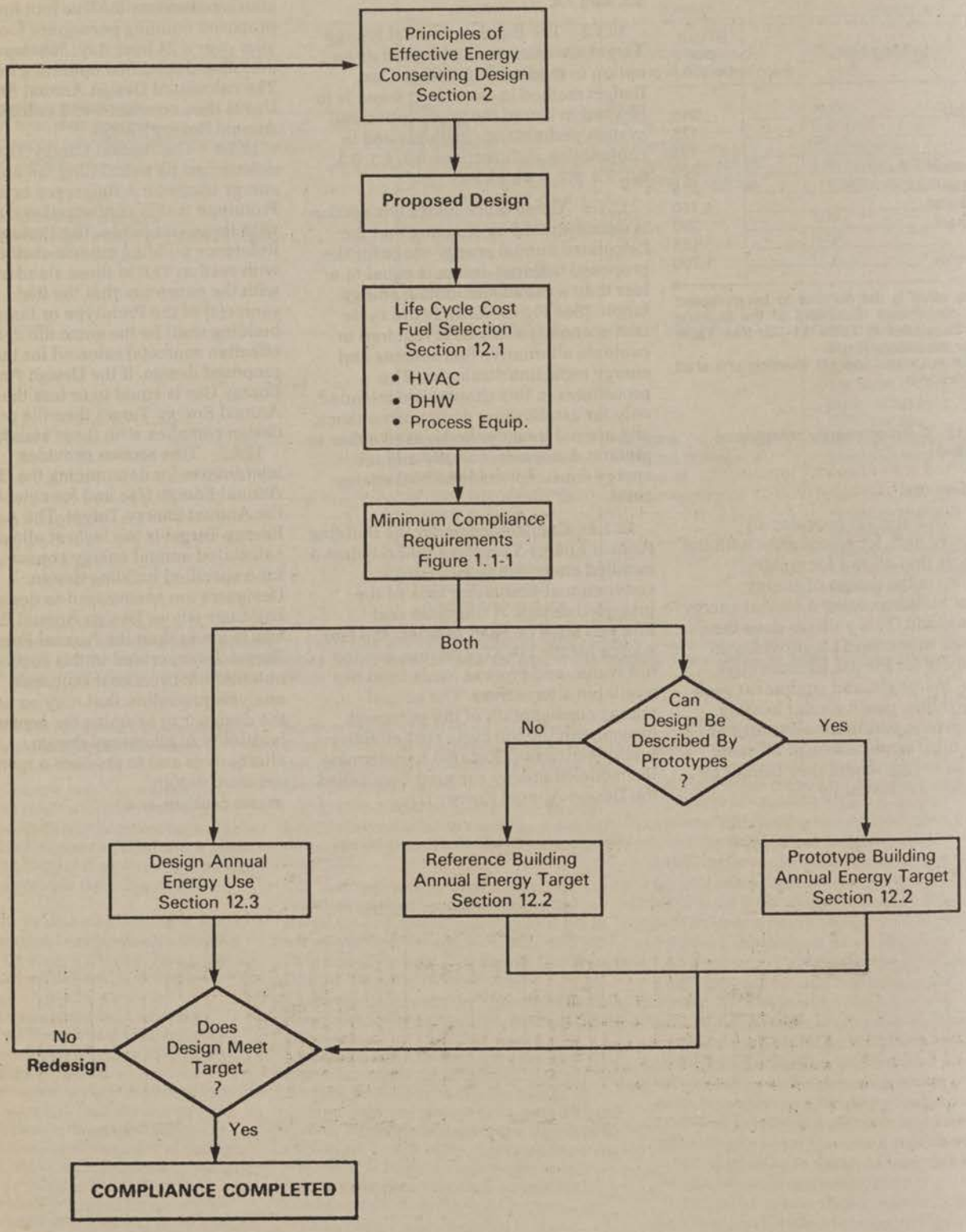


Figure 12-1.—Building Energy Compliance Alternative



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12.2 Determination of the Annual Energy Budget.

12.2.1 The Annual Energy Target 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 Annual Energy Target shall be stated in units of Btu/ft²/yr and the simulation tool shall segregate the calculated energy consumption by fuel type producing an Annual Energy Target for each fuel (the fuel selections having been made by a life cycle cost analysis in determining the proposed design).

12.2.2 The Annual Energy Target (AET) is calculated similarly for the Reference or Prototype building using the following equation:

$$AET = (AET_1)(f_1) + (AET_2)(f_2) + \ldots\ldots + (AET_i)(f_i)$$

Equation 12–1

Where AET_1, AET_2, . . . AET_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 factor given in Table 12–1. In lieu of case by case calculation of the Annual Energy Target, the designer may construct Annual Energy Target 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 Annual Energy Target tables shall be equal to or less than the corresponding Annual Energy Targets calculated on a case by case basis according to this section. Annual Energy Target 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.

12.3 Determination of the Design Annual Energy Use.

12.3.1 The Design Annual 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 Annual Energy Target, 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 Annual Energy Use for each fuel. The sum of the Design Annual Energy Uses multiplied by the fuel conversion factors in Table 12–1 yields the Design Annual Energy Use for the proposed design:

$$DAE = (DAE_1)(f_1) + (DAE_2)(f_2) + \ldots\ldots + (DAE_i)(f_i)$$

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 building 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 Annual Energy Use is equal to or less than the Annual Energy Target.

$$DAE < AET$$

Equation 12–3

12.4.2 The energy consumption shall be measured at the building five foot line for all fuels. Energy consumed from renewable energy sources and heat recovery systems shall not be included in the Design Annual Energy Use calculations. The thermal efficiency of fixtures, equipment, systems or plants in the proposed building 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 Annual Energy Targets for Prototype and Reference Buildings and the Design Annual Energy Use for the Proposed Design. In order to maintain consistency between the Annual Energy Targets and the Design Annual 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 Annual Energy Target and Design Annual 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 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.

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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APPENDIX A to Subpart A of Part 435
CLIMATE DATA

NO	CITY	STATE	HDD50	HDD65	NORTH	VS E/W	VS SOUTH	CDD50	CDD65	CDH80	DRNG	ACP TABLE
Alabama												
27	Birmingham	AL	765	2882	464	789	908	5182	1825	6272	17.5	5.4-9
143	Mobile	AL	164	1500	486	816	919	6478	2419	7479	16.6	5.4-11
145	Montgomery	AL	491	2261	462	823	981	5821	2116	8473	19.5	5.4-11
Alaska												
2	Adak	AK	3562	8913	280	434	652	124	0	0	9.9	5.4-32
9	Annette	AK	2545	7277	285	482	739	756	12	0	10.1	5.4-32
23	Bethel	AK	8285	13449	252	453	789	312	0	0	14.3	5.4-33
24	Big Delta	AK	9355	14069	249	527	989	777	16	25	19.0	5.4-33
75	Fairbanks	AK	9841	14414	241	492	919	932	19	8	18.2	5.4-33
92	Gulkana	AK	8865	13846	257	522	943	498	4	6	18.5	5.4-33
97	Homer	AK	5301	10540	272	538	926	236	0	0	13.8	5.4-32
105	Juneau	AK	4223	9350	254	410	642	348	0	0	12.7	5.4-32
106	King Salmon	AK	6843	11992	270	499	860	330	4	6	15.4	5.4-33
109	Kodiak	AK	2775	8896	276	509	852	360	6	0	10.6	5.4-33
132	McGrath	AK	9967	14868	246	467	841	578	3	0	15.9	5.4-33
152	Nome	AK	9061	14418	242	478	871	119	0	0	9.0	5.4-33
208	Summit	AK	9210	14530	247	488	893	155	0	0	13.6	5.4-33
231	Yakutat	AK	4486	9714	247	401	650	248	0	0	9.3	5.4-32
Arizona												
163	Phoenix	AZ	90	1382	488	1116	1310	7830	3647	34521	21.2	5.4-15
171	Prescott	AZ	1477	4462	473	1090	1334	3385	895	3973	24.0	5.4-18
218	Tucson	AZ	178	1601	500	1112	1280	6682	2769	19657	21.9	5.4-13
229	Winslow	AZ	1695	4603	471	1092	1338	3708	1141	7347	27.7	5.4-18
234	Yuma	AZ	43	782	493	1151	1330	8921	4186	37892	23.5	5.4-15
Arkansas												
78	Fort Smith	AR	1149	3394	462	842	1005	5307	2077	10413	22.4	5.4-21
121	Little Rock	AR	912	3092	465	831	981	5351	2055	8450	17.5	5.4-11
California												
11	Arcata	CA	582	5020	407	724	926	1038	1	0	8.9	5.4-6
17	Bakersfield	CA	305	2194	474	1053	1211	5879	2294	15447	28.9	5.4-6
47	China Lake	CA	409	2444	468	1091	1312	6222	2782	26739	27.4	5.4-13
57	Daggett	CA	237	1916	475	1102	1309	6516	2720	22302	27.0	5.4-13
70	El Toro	CA	32	1577	486	977	1163	4764	834	2391	22.3	5.4-8
81	Fresno	CA	492	2700	459	1029	1199	5070	1803	13085	31.8	5.4-10
122	Long Beach	CA	54	1483	482	956	1144	4947	900	1616	16.1	5.4-8
123	Los Angeles	CA	3	1494	482	962	1146	4456	472	136	14.1	5.4-8
146	Mount Shasta	CA	1947	5583	419	909	1153	2395	556	2073	16.2	5.4-24
156	Oakland	CA	157	2922	453	909	1102	2972	82	23	16.4	5.4-7
167	Point Mugu	CA	8	2192	477	936	1131	3435	145	70	12.3	5.4-7
165	Red Bluff	CA	589	2884	428	951	1177	5110	1930	14404	29.5	5.4-10
185	Sacramento	CA	381	2753	444	987	1185	4274	1171	7315	34.6	5.4.10
191	San Diego	CA	2	1275	490	950	1121	4865	662	383	11.5	5.4-8
192	San Francisco	CA	186	3238	454	941	1146	2496	73	204	20.2	5.4-7
194	Santa Maria	CA	138	3041	476	950	1128	2663	92	513	20.9	5.4-7
209	Sunnyville	CA	142	2703	456	947	1145	3112	204	421	16.9	5.4-7
Colorado												
49	Colorado Springs	CO	2587	5996	435	976	1321	2557	491	2075	24.0	5.4-24
61	Denver	CO	2652	6083	428	971	1321	2611	567	2934	25.5	5.4-24
67	Eagle	CO	4232	8317	432	976	1296	1480	90	1008	35.4	5.4-30
85	Grand Junction	CO	2616	5701	438	1003	1303	3611	1221	6147	27.4	5.4-26
173	Pueblo	CO	2223	5285	442	992	1309	3384	971	5899	27.5	5.4-24

NO	CITY	STATE	HDD50	HDD65	NORTH	VS E/W	VS SOUTH	VS CDD50	CDD65	CDH80	DRNG	ACP TABLE
Connecticut												
94	Hartford	CT	2953	6277	384	646	834	2857	706	2197	23.7	5.4-23
Delaware												
227	Wilmington	DE	2133	5004	414	726	921	3602	1078	2188	17.2	5.4-22
District of Columbia												
223	Washington	DC	2004	4828	419	724	905	3734	1083	3592	18.6	5.4-22
Florida												
10	Apalachicola	FL	163	1366	508	887	971	6967	2695	8289	14.3	5.4-12
59	Daytona	FL	81	787	503	860	953	7404	2635	5252	14.8	5.4-12
104	Jacksonville	FL	206	1357	495	849	943	7045	2721	7488	16.4	5.4-12
136	Miami	FL	3	185	527	874	936	9338	4045	9166	12.4	5.4-14
160	Orlando	FL	33	532	511	881	974	8288	3312	9757	17.1	5.4-14
211	Tallahassee	FL	307	1721	495	845	944	6462	2401	7323	16.1	5.4-12
212	Tampa	FL	37	575	518	890	974	7985	3047	8905	14.9	5.4-12
224	West Palm Beach	FL	8	177	519	846	906	9203	3904	10324	13.1	5.4-14
Georgia												
14	Atlanta	GA	866	3070	467	807	930	4837	1566	3799	17.6	5.4-9
15	Augusta	GA	664	2584	468	803	933	5458	1904	6904	21.3	5.4-9
128	Macon	GA	514	2330	476	822	939	5769	2111	8097	18.7	5.4-11
196	Savannah	GA	410	1967	474	805	926	6112	2194	6308	16.6	5.4-11
Hawaii												
21	Barbers Point	HI	0	3	592	978	965	9314	3842	3617	11.2	5.4-4
96	Hilo	HI	0	0	557	817	805	8494	3019	1112	11.0	5.4-4
98	Honolulu	HI	0	0	588	953	932	9625	4150	4537	9.8	5.4-4
120	Lihue	HI	0	2	567	895	893	9219	3746	1912	9.6	5.4-4
Idaho												
29	Boise	ID	2276	5667	399	918	1228	2828	744	4512	28.9	5.4-24
117	Lewiston	ID	2015	5426	370	729	988	2709	645	4121	29.7	5.4-22
166	Pocatello	ID	3404	7075	405	935	1262	2330	526	3293	32.8	5.4-29
Illinois												
46	Chicago	IL	3000	6151	402	729	936	3339	1015	3190	16.6	5.4-23
144	Moline	IL	3085	6250	405	736	959	3204	894	2808	19.5	5.4-23
207	Springfield	IL	2490	5448	422	768	962	3675	1158	4038	20.2	5.4-25
Indiana												
74	Evansville	IN	1948	4625	426	736	890	4063	1265	4288	18.4	5.4-25
79	Fort Wayne	IN	3023	6125	395	664	826	3096	743	1629	17.7	5.4-23
101	Indianapolis	IN	2624	5620	407	692	851	3430	951	2263	18.0	5.4-23
204	South Bend	IN	3038	6280	396	690	857	2917	684	1840	21.1	5.4-23
Iowa												
34	Burlington	IA	3009	6094	419	802	1030	3393	1002	2598	17.1	5.4-23
82	Des Moines	IA	3275	6447	413	788	1027	3116	812	2383	17.5	5.4-27
130	Mason City	IA	4311	7735	400	783	1053	2700	658	1882	20.8	5.4-28
202	Sioux City	IA	4608	6750	406	794	1064	3326	993	3488	18.6	5.4-27
Kansas												
65	Dodge City	KS	2280	5131	450	942	1196	4008	1384	7186	26.0	5.4-26
83	Goodland	KS	2757	6090	434	935	1228	3047	905	5147	26.3	5.4-24
215	Topeka	KS	2458	5102	434	837	1068	4120	1388	5212	22.3	5.4-25

NO	CITY	STATE	HDD50	HDD65	NORTH	VS E/W	VS SOUTH	CDD50	CDD65	CDH80	DRNG	ACP TABLE
Kentucky												
55	Covington	KY	2154	5030	408	687	843	3656	1057	2638	18.3	5.4-22
119	Lexington	KY	1921	4649	425	729	872	3904	1157	2853	15.6	5.4-25
124	Louisville	KY	1851	4539	424	727	883	4144	1357	4716	17.6	5.4-25
Louisiana												
22	Baton Rouge	LA	237	1573	488	806	889	6682	2543	8814	17.2	5.4-11
113	Lake Charles	LA	214	1455	489	795	864	6849	2615	7883	14.8	5.4-11
148	New Orleans	LA	179	1392	497	838	923	6840	2578	7380	15.1	5.4-11
201	Shreveport	LA	447	2265	484	843	954	6022	2365	10039	18.1	5.4-11
Maine												
20	Bangor	ME	4132	7998	378	693	950	1853	243	454	21.5	5.4-28
37	Caribou	ME	5297	9483	357	649	922	1410	121	203	18.1	5.4-31
169	Portland	ME	3531	7305	376	643	856	1946	245	399	19.6	5.4-27
Maryland												
19	Baltimore	MD	2020	4946	419	739	932	3683	1134	3825	18.6	5.4-22
161	Patuxent	MD	1418	4002	429	758	943	4180	1289	2966	12.9	5.4-19
Massachusetts												
30	Boston	MA	2416	5775	387	659	849	2810	695	1601	18.5	5.4-22
Michigan												
7	Alpena	MI	4282	8164	371	661	862	1928	335	894	17.3	5.4-28
63	Detroit	MI	2799	5997	390	676	858	3199	992	2238	18.8	5.4-23
77	Flint	MI	3471	6917	379	641	811	2502	473	921	18.1	5.4-27
86	Grand Rapids	MI	3392	6777	390	688	872	2680	590	1461	22.2	5.4-27
195	Sault Sainte Marie	MI	5087	9282	359	640	858	1399	119	246	21.0	5.4-31
216	Traverse City	MI	3934	7654	369	642	818	2193	438	1124	21.0	5.4-27
Missouri												
50	Columbia	MO	2225	4994	431	790	972	3940	1234	4242	21.5	5.4-25
186	Saint Louis	MO	2111	4860	432	797	983	4193	1467	5379	18.7	5.4-25
206	Springfield	MO	1839	4509	446	812	982	4115	1311	4170	20.4	5.4-25
Montana												
25	Billings	MT	3627	7156	380	814	1160	2544	598	2695	25.6	5.4-27
56	Cutbank	MT	4718	8941	357	768	1150	1368	117	702	27.6	5.4-28
64	Dillon	MT	4140	8210	386	838	1187	1864	159	784	28.6	5.4-28
82	Glasgow	MT	5082	8828	361	752	1115	2272	543	2642	26.0	5.4-31
87	Great Falls	MT	3728	7454	366	776	1133	2199	450	1886	26.7	5.4-27
95	Helena	MT	3926	7817	372	771	1098	1911	328	1771	28.3	5.4-27
118	Lewistown	MT	4027	8089	368	753	1084	1629	216	1270	29.8	5.4-28
138	Miles City	MT	4435	7989	374	800	1156	2694	773	4364	26.9	5.4-28
142	Missoula	MT	3492	7560	363	704	957	1629	221	1513	30.8	5.4-27
Nebraska												
84	Grand Isle	NE	3315	6477	420	843	1115	3309	996	4580	24.5	5.4-27
155	North Platte	NE	3447	6905	419	880	1183	2731	715	3468	26.2	5.4-29
159	Omaha	NE	2981	5968	414	806	1066	3618	1130	3883	19.6	5.4-23
197	Scottsbluff	NE	3335	6900	413	861	1168	2603	693	3795	28.3	5.4-29

NO	CITY	STATE	HDD50	HDD65	NORTH	VS E/W	SOUTH	VS	CDD50	CDD65	CDH80	DRNG	ACP TABLE
Nevada													
71	Elko	NV	3345	7178	420	1000	1332	1997	355	4065	37.8		5.4-29
72	Ely	NV	3683	7666	432	1014	1350	1650	157	1317	30.1		5.4-29
116	Las Vegas	NV	449	2399	456	1136	1417	6567	3043	26408	25.5		5.4-13
125	Lovelock	NV	2438	5845	418		1452	2813	745	6659	34.7		5.4-24
178	Reno	NV	2181	5841	428	1068	1401	2180	365	4059	39.3		5.4-24
214	Tonopah	NV	2308	5652	427	1130	1502	2742	611	3777	28.4		5.4-24
228	Winnesucca	NV	2774	6471	418	1014	1350	2264	486	6366	41.0		5.4-24
233	Yucca	NV	1664	4882	450	1112	1399	3378	1041	11568	35.9		5.4-18
New Hampshire													
53	Concord	NH	3742	7425	375	630	824	2254	463	1865	22.6		5.4-27
New Jersey													
114	Lakehurst	NJ	2174	5265	407	712	917	3299	915	3019	20.5		5.4-22
151	Newark	NJ	2027	4956	406	710	912	3556	1009	2487	17.7		5.4-22
New Mexico													
5	Albuquerque	NM	1633	4423	469	1105	1361	3942	1257	5705	25.3		5.4-20
48	Clayton	NM	2138	5176	457	1019	1310	3122	685	2093	20.0		5.4-24
184	Roswell	NM	1000	3486	490	1081	1280	4536	1539	11135	26.1		5.4-20
217	Truth or Consequences	NM	1074	3592	488	1113	1326	4457	1500	6882	23.4		5.4-20
219	Tucumcari	NM	1344	3922	470	1046	1300	4451	1554	8424	26.9		5.4-20
New York													
4	Albany	NY	3488	6770	395	719	942	2812	619	1308	19.7		5.4-27
26	Binghampton	NY	3885	7397	370	592	733	2373	410	672	18.5		5.4-27
33	Buffalo	NY	3213	6271	371	669	746	2476	509	779	19.2		5.4-27
131	Massena	NY	4583	8397	380	708	942	2026	305	913	20.9		5.4-28
149	New York (Central Pk)	NY	1986	5022	392	650	817	3273	834	911	12.5		5.4-22
150	New York (LAG)	NY	1986	5022	392	650	817	3273	834	911	12.5		5.4-22
182	Rochester	NY	3482	6995	374	622	771	2557	595	1642	20.1		5.4-27
210	Syracuse	NY	3448	6656	371	611	764	2579	513	926	20.2		5.4-27
North Carolina													
12	Asheville	NC	1407	4203	449	782	946	3442	763	1298	21.1		5.4-17
36	Cape Hatteras	NC	635	2745	460	819	972	4978	1613	2039	18.0		5.4-8
42	Charlotte	NC	1086	3412	456	809	968	4698	1549	4299	19.6		5.4-19
44	Cherry Point	NC	569	2556	461	826	996	5277	1788	3614	15.2		5.4-9
89	Greensboro	NC	1261	3700	449	810	994	4274	1298	3642	17.4		5.4-19
174	Raleigh	NC	1131	3509	445	774	935	4485	1389	3689	16.5		5.4-19
North Dakota													
28	Bismarck	ND	5196	8992	371	766	1114	2175	496	2057	27.8		5.4-31
76	Fargo	ND	5582	9242	371	751	1077	2388	573	2288	22.2		5.4-31
141	Minot	ND	5336	9178	358	724	1059	2054	431	1570	24.5		5.4-31
Ohio													
3	Akron	OH	2881	6172	396	664	812	2845	661	1100	17.3		5.4-23
52	Columbus	OH	2424	5493	401	671	819	3195	789	2268	22.6		5.4-22
58	Dayton	OH	2573	5549	408	696	855	3367	868	1346	17.1		5.4-22
213	Toledo	OH	3132	6514	393	676	853	2791	698	1794	17.8		5.4-23
232	Youngstown	OH	3129	6557	383	624	760	2593	546	1128	21.4		5.4-23

NO	CITY	STATE	HDD50	HDD65	NORTH	VS E/W	VS SOUTH	CDD50	CDD65	CDH80	DRNG	ACP TABLE
Oklahoma												
157	Oklahoma City	OK	1417	3825	465	875	1053	4901	1834	8878	20.8	5.4-20
220	Tulsa	OK	1429	3732	453	820	991	5244	2072	10065	19.7	5.4-21
Oregon												
13	Astoria	OR	1080	5226	350	588	782	1357	29	145	12.3	5.4-16
133	Medford	OR	1531	4893	405	814	1005	2681	568	4081	32.9	5.4-17
154	North Bend	OR	629	4678	392	740	977	1429	2	0	11.8	5.4-6
170	Portland	OR	1151	4577	364	647	841	2321	272	1086	22.8	5.4-16
177	Redmond	OR	2535	6665	395	835	1127	1573	228	2390	34.4	5.4-22
187	Salem	OR	1128	4926	373	680	874	1849	172	1224	29.3	5.4-16
Pennsylvania												
6	Allentown	PA	2692	5760	401	682	864	3105	698	1146	17.0	5.4-23
17	Avoca	PA	2931	6236	389	646	811	2823	652	1547	19.7	5.4-23
73	Erie	PA	3006	6426	384	646	792	2527	472	378	14.8	5.4-23
93	Harrisburg	PA	2302	5251	404	687	864	3518	992	2860	20.1	5.4-22
162	Philadelphia	PA	2044	4923	408	701	889	3661	1065	3172	17.1	5.4-22
165	Pittsburgh	PA	2773	5907	392	642	780	2989	648	1040	19.0	5.4-23
Rhode Island												
172	Providence	RI	2610	6022	393	677	874	2756	693	1284	16.8	5.4-23
South Carolina												
40	Charleston	SC	435	2194	467	796	925	5722	2005	5249	16.4	5.4-11
52	Columbia	SC	694	2666	467	816	953	5613	2110	8541	19.5	5.4-11
90	Greenville	SC	907	3220	459	814	971	4563	1400	3494	17.7	5.4-9
South Dakota												
100	Huron	SD	4820	8351	390	769	1044	2718	774	3739	24.5	5.4-28
164	Pierre	SD	4028	7358	392	822	1147	3079	934	5262	24.2	5.4-28
175	Rapid City	SD	3672	7229	394	819	1142	2581	663	3477	28.2	5.4-27
203	Sioux Falls	SD	4240	7683	394	778	1078	2811	779	3029	20.2	5.4-28
Tennessee												
43	Chattanooga	TN	1232	3595	444	738	869	1652	1541	5079	17.6	5.4-19
108	Knoxville	TN	1283	3818	446	762	898	4455	1514	3840	17.8	5.4-19
134	Memphis	TN	1034	3259	460	806	935	5319	2069	7807	19.2	5.4-21
147	Nashville	TN	1165	3609	443	749	863	4583	1552	5078	18.2	5.4-19
Texas												
1	Abilene	TX	792	2714	494	924	1066	5968	2416	13206	21.5	5.4-12
8	Amarillo	TX	1592	4331	471	1013	1253	4113	1377	6763	23.9	5.4-20
16	Austin	TX	271	1735	503	877	972	6873	2862	14093	19.3	5.4-12
31	Brownsville	TX	35	642	547	908	908	8531	3664	12218	14.8	5.4-14
54	Corpus Christi	TX	106	889	529	906	946	8200	3508	13109	17.2	5.4-14
60	Del Rio	TX	186	1397	511	903	1008	7376	3112	14870	19.8	5.4-12
69	El Paso	TX	522	2605	503	1103	1306	5617	2225	13224	21.3	5.4-12
80	Fort Worth	TX	605	2354	485	875	994	6174	2448	13684	20.5	5.4-12
99	Houston	TX	195	1346	490	805	883	7215	2891	10569	18.2	5.4-11
107	Kingsville	TX	49	874	527	881	992	8302	3652	15512	19.2	5.4-14
115	Laredo	TX	65	842	532	900	936	8827	4130	25225	21.4	5.4-15
126	Lubbock	TX	1173	3643	488	1070	1267	4754	1749	9827	25.1	5.4-20
127	Lufkin	TX	370	1846	492	848	942	6667	2668	11737	21.5	5.4-12
137	Midland	TX	634	2573	504	1079	1247	5695	2159	11177	25.9	5.4-12
168	Port Arthur	TX	167	1416	497	824	900	6888	2662	8837	17.4	5.4-11

NO	CITY	STATE	HDD50	HDD65	NORTH	VS E/W	VS SOUTH	CDD50	CDD65	CDH80	DRNG	ACP TABLE
Texas (cont)												
189	San Angelo	TX	538	2110	503	944	1076	6522	2619	14621	20.0	5.4-12
190	San Antonio	TX	261	1579	510	878	955	7170	3013	13841	20.1	5.4-12
200	Sherman	TX	699	2700	476	862	996	5844	2378	12065	20.2	5.4-12
221	Waco	TX	488	2166	495	874	972	6676	2879	15658	21.1	5.4-12
226	Wichita Falls	TX	984	3049	480	911	1077	5700	2299	14487	18.8	5.4-12
Utah												
32	Bryce	UT	4709	9288	445	1063	1386	899	4	69	30.0	5.4-30
39	Cedar City	UT	2592	5888	447	1054	1342	2802	624	3119	27.1	5.4-24
188	Salt Lake City	UT	2570	5975	422	975	1266	3011	941	7030	29.1	5.4-24
Vermont												
35	Burlington	VT	4211	7932	382	698	925	2118	365	490	18.3	5.4-28
Virginia												
153	Norfolk	VA	1185	3609	443	792	964	4636	1586	4554	15.0	5.4-19
179	Richmond	VA	1322	3895	430	745	923	4225	1323	4021	17.6	5.4-19
180	Roanoke	VA	1520	4192	433	763	946	3986	1183	3306	19.0	5.4-19
Washington												
158	Olympia	WA	1546	5550	351	619	819	1550	79	466	26.4	5.4-16
198	Seattle/Tacoma	WA	1382	5281	350	621	828	1683	106	256	16.5	5.4-16
205	Spokane	WA	2983	6727	363	758	1064	2094	363	1595	25.3	5.4-23
225	Whidbey Island	WA	1179	5274	344	630	878	1403	22	7	14.8	5.4-16
230	Yakima	WA	2323	5877	373	790	1091	2370	449	3285	31.2	5.4-22
West Virginia												
41	Charleston	WV	1816	4587	489	667	798	3712	1008	3054	20.8	5.4-22
Wisconsin												
68	Eau Claire	WI	4751	8285	376	683	923	2545	603	1898	18.2	5.4-28
88	Green Bay	WI	4310	8039	380	696	947	2172	426	957	22.1	5.4-28
112	La Crosse	WI	3838	7243	386	701	937	2786	716	2121	18.9	5.4-27
129	Madison	WI	4009	7466	391	717	955	2559	542	1329	19.1	5.4-28
139	Milwaukee	WI	3586	7121	396	724	942	2427	487	1013	17.1	5.4-27
Wyoming												
38	Casper	WY	3824	7617	403	961	1343	2177	495	2699	29.8	5.4-29
45	Cheyenne	WY	3435	7218	416	906	1267	1963	271	1040	26.4	5.4-29
183	Rock Springs	WY	4407	8391	411	1012	1395	1698	207	702	29.1	5.4-30
199	Sheridan	WY	3605	7366	387	806	1133	2074	360	2105	30.8	5.4-29
Other Locations Outside U.S.A.												
91	Quantanamo Bay	CUBA	0	0	612	1045	1018	11071	5596	18452	15.5	5.4-5
110	Koror Island	PW	0	0	662	890	827	11435	5960	14548	9.5	5.4-5
111	Kwajalein	PW	0	0	678	961	888	11635	6160	16217	8.2	5.4-5
193	San Juan	PR	0	0	608	963	931	10648	5173	11563	12.7	5.4-5
222	Wake Island	PW	0	0	609	1002	977	10869	5394	10167	9.7	5.4-5

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Appendix B to Part 435 Subpart A—Microcomputer Program for Determining Envelope Compliance

This Appendix contains the instructions for using a floppy diskette containing a microcomputer-based program that may be used for performing the calculations required for the external envelope requirements and the system performance compliance calculations in section 5.5 of the Standards. The calculations performed by the program *are an exact duplicate of the requirements and the compliance calculations contained in section 5.5 of the standards.*

A report entitled, "Envelope System Performance Compliance Calculation Program Documentation—Version 1.0", DOE/CE–0166, containing these instructions and a copy of the diskette may be obtained from: National Technical Information Service (NTIS), U.S. Department of Commerce, Springfield, VA 22161.

The microcomputer program is provided for convenience in determining the external envelope requirements and calculating if a building design is in compliance with those requirements. The program will perform calculations for eight orientations at a time.

Using the Program

The program has been written in the PASCAL computer language. The "compiled" version of the program provided on the diskette will run on virtually any MS–DOS compatible microcomputer, requiring only the MS–DOS operating system. A listing of the PASCAL source code for the program is also provided on the diskette.

The program is accessed from MS–DOS by typing the version name at the MS–DOS prompt:

ENV The simplest version of the program. (Filenames—*ENV.COM* and *ENV.000*)

ENV–87 A version requiring an 8087 or 80287 math co-processor to be installed in the microcomputer. (Filenames—*ENV–87.COM* and *ENV–87.000*)

ENV–C A version for those microcomputers with color monitors. (Filenames—*ENV–C.COM* and *ENV–C.000*)

Note that the ".COM" and ".000" files for the particular version you wish to use must be on the diskette in order for the program to run.

Two additional files are included in the diskette as examples:

MOFFENV.DAT An example medium office building in El Paso, TX.

APARTENV.DAT An example high-rise apartment building in Minneapolis, MN.

The medium office example inputs is shown in Figure B–1.

FIGURE B-1
ENVELOPE SYSTEM PERFORMANCE COMPLIANCE CALCULATION TEMPLATE

City # 69 EL PASO TX

Orientation	WALL-1 N	WALL-2 NE	WALL-3 E	WALL-4 SE	WALL-5 S	WALL-6 SW	WALL-7 W	WALL-8 NW	
Opaque Wall Area	3017		3017		3017		3017		
Fenestration Area	1096		1950		1170		1914		
SC_x (Fenestr)	.4		.4		.4		.4		
Seh (Fenestr)	.2		.18		.18		.2		
VT (Fenestr)	.37		.37		.37		.37		
Uof (Fenestr)	1.0		1.0		1.0		1.0		
Uow (OpaqWall)	.196		.196		.196		.196		
HC (OpaqWall)	5.33		5.33		5.33		5.33		
InsPos (OpaqWall)	3		3		3		3		
Equipment (Int)	.5		.5		.5		.5		
Lights (Int)	1.75		1.75		1.75		1.75		
DLCF (Int)	0		0		0		0		TOTALS
HEATING	2.27		2.14		1.48		2.27		8.16
COOLING	8.59		17.25		11.74		17.37		54.95
TOTAL	10.86		19.39		13.22		19.64		63.11

CRITERIA: HEATING › 6.91 COOLING › 56.76 TOTAL › 63.66

Climate Data

Climate Data has been incorporated into the program as shown in Appendix A.

Enter the appropriate city number shown in Appendix A.

Special Function Keys

<F1> Calculates the cooling and heating totals using the data entered on the screen, calculates the criteria, and determines if the exterior envelope configuration PASSES or FAILS compliance for a given location.

If the exterior opaque wall $U_{o\,w}$ value is above the maximum prescribed by the standards, the program will not calculate the criteria. Enter an opaque wall $U_{o\,w}$ value that is below the maximum value. The maximum value does not apply to walls with HC> 7.

<F2> Assesses the disk drives, allowing the user to save the current screen to the file or to read a file from the diskette.

<F3> Clears all input data from the screen and reinitializes all variables.

<F4> Changes from the External Wall Screen to the screen with the requirements for roof, floor, slab, and walls next to unconditioned spaces. By hitting the <RETURN> key, you can return to the External Wall Screen.

<F10> Copies an entry made to all columns being used in that row. This does not apply to the first row, OPAQUE WALL AREA. The program uses this variable to determine which directions will be used. It will only copy an entry to columns that have a value entered in the OPAQUE WALL AREA row.

<ESC> Exit from the program.

The following keys move the cursor around the screen.

<RETURN> This return key moves the cursor to the next row in the same column.

<BS> The backspace key deletes the last character, or, if at the first character of a column, moves the cursor to the previous column.

<LEFT> The left arrow key moves the cursor one column to the left, or, if at the left-most column, will move the cursor to the last column of the previous row.

<RIGHT> The right arrow key moves the cursor one column to the right, or if at the right-most column, will move the cursor to the first column of the next row.

<UP> The up arrow key moves the cursor up one row in the same column.

<DOWN> The down area key moves the cursor down one row in the same column.

Input Requirements

The program checks the input data to insure that it is within the ranges allowed by the Standards as shown below. The program will not calculate compliance if any value is beyond the ranges shown.

City No. An integer from 1 to 234. The city numbers are listed in Appendix A.

Opaque Wall Area A real number greater than 0.0 in ft². The gross opaque wall area for the specific orientation and direction.

Fenestration Area A real number greater than 0.0, in ft². The area of fenestration for the specific orientation and direction.

SC_x (Fenestr) A real number between 0.0 and 1.0 inclusive. The shading coefficient of the glazing including the effects of interior shading devices but excluding external shading devices. See *ASHRAE 1985 Handbook of Fundamentals* or manufacturers literature for appropriate values.

$S_{e\,h}$ (Fenestr) A real number between 0.0 and 1.0 inclusive. The overhang projection factor, see section 5.0 of the standards for a definition of this factor.

VT (Fenstr) A real number between 0.0 and 1.0 inclusive. The visible light transmittance of the glazing in percent, used in the daylighting credit calculations. See manufacturers literature for appropriate values.

$U_{o\,f}$ (Fenestr) A real number between 0.0 and 1.4 inclusive. The glazing U-value including mullion factors, in Btu/h-ft²-F°. For single glazing, use 1.13.

$U_{o\,w}$ (OpaqWall) A real number between 0.0 and 1.4 inclusive. The U-value of the exterior opaque wall including framing factors, in Btu/h-ft²-F°. For R-11 insulation in a light steel stud wall, use 0.14.

HC (OpaqWall) A real number between 0.0 and 20.0. The heat capacity of the exterior opaque wall, in Btu/ft².

InsPos (OpaqWall) An integer value, 0, 1, or 2. The position of the *insulation* in the exterior opaque wall:

1—Interior
2—Integral
3—Exterior

Equipment A real number between 0.0 and 5.0 inclusive. The equipment power in watts/ft² of the 15 foot perimeter zone.

Lighting A real number between 0.0 and 5.0 inclusive. The lighting power allowance in watts/ft² as determined in section 6.0 of the Standards.

DLCF A real number between 0.0 and 1.0 inclusive. The fraction of lighting power automatically controlled for daylight within 15 of this wall. For no daylighting, use 0.0.

Appendix C to Subpart A of Part 435—Using the ACP Tables

Section 5.4 of the Commercial and Multi-Family High Rise Residential Building Standards provides precalculated prescriptive compliance requirements for building exterior envelopes. This includes compliance requirements for new 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.

The envelope design of the building being evaluated is in compliance with the standard's prescriptive criteria provided that:

(1) The minimum requirements of section 5.3 of the standards are met.

(2) All envelope thermal transmittance (U) values are less than or equal to those chosen from the ACP Table selected and the corresponding values specified in Table 5.4–2.

(3) All envelope thermal resistance (R) values are greater than those listed for insulation in combination with walls below grade and for slab-on-grade floors, as specified in Table 5.4–2.

(4) The percentage of fenestration of the combined gross wall area is less than or equal to the value chosen from the selected ACP Table.

Procedure for Using the Alternate Component Packages (ACP)

The prescriptive envelope criteria for each of 30 climate ranges are contained in Table 5.4–2, Tables 5.4–4 through 5.4–33, and Table 5.4–34. Table 5.4–2 contains, for each of the 30 climate ranges, the required overall thermal transmittances and thermal resistances of building components, including roofs (Max. U_o), floors over unconditioned spaces (Max. U_o), exterior wall insulation below grade (Min. R), and floor insulation for slabs on-grade (Min. R).

Tables 5.4–4 through 5.4–33 contain procedures to determine the maximum allowable fenestration for a building design based on the building design's projected internal load, shading coefficient of the fenestration (SC), the projection factor of fixed, horizontal external shading devices (PF), thermal transmittance of the fenestration assembly (U_{of}), the overall thermal transmittance of the walls (U_{ow}), the envelope's heat capacity (HC), whether or not the design employs daylight-activated automatic lighting controls for perimeter daylighting, and finally, whether or not the design employs glazings with visible transmittances (VT) equal to the shading coefficient.

Table 5.4–34 is referred to in the ACP tables, Tables 5.4–4 through Table 5.4–33. It contains the respective values for the overall thermal transmittance (U_{ow}) and heat capacity (HC).

The following is an example of how this compliance procedure is used.

To begin the compliance, the designer must have completed the proposed design and calculated the factors listed above. In this example, the following factors are used:

Building Site: Memphis, TN
Roof U_o Value: 0.055
Floor over Unconditioned Space U_o Value: 0.075
Wall Below Grade R-Value: 7
Opaque Wall U_o Value: 0.17, w/ insulation exterior to wall
Wall Heat Capacity (HC): 7

Percentage Fenestration: 30%
Fenestration U_o Value: 0.32, w/visible transmittance of 0.50
Shading Coefficient: 0.55
Projection Factor: 0.25
Internal Load: 2.35 W/ft²
Automatic Lighting Controls: Yes

To use the ACP Tables, the designer must first determine the appropriate climate range for the proposed design's building site. Either Steps 1 or 2 below may be used.

(1) From Table 5.4–1, select the appropriate climate grouping for the building site. The main climate variables that are needed for the proper selection of an ACP Table are cooling degree-days base 65F° (CDD65), heating degree-days base 50F° (HDD50), and annual average daily incident of solar radiation on the east or west vertical surface of the facade, Btu/ft²/day (VSEW). For certain climate ranges this must be augmented by cooling degree-hours base 80F° (CDH80). This data may be acquired from the U.S. Weather Service of the National Oceanic and Atmospheric Administration or the local weather bureau. It should be noted that the column designated "ACP Table No.," on the extreme right column of Table 5.4–1 contains the table number of the appropriate ACP Table.

—OR—

(2) From the list of cities in Appendix A, 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 Step 1. The column designated "ACP Table No." in Appendix A contains the table number of the appropriate ACP Table.

TABLE 5.4–1.—SELECTION OF ACP TABLES

HDD50	CDD65	VSEW	CDH80	ACP Table No.
1–1000	3251–4500	>845	>1800	5.4–15
1001–1750	0–500	560–845		5.4–16
1001–1750	501–1150	560–845		5.4–17
1001–1750	1–1150	>845		5.4–18
1001–1750	1151–2000	560–845		5.4–19
1001–1750	1151–2000	>845		5.4–20
1001–1750	2001–3250	560–845		5.4–21
1751–2600	0–1150	560–845		5.4–22
2601–3200	0–1150	560–845		5.4–23

In our example, we have chosen Memphis, Tennessee for our building site. Using information obtained from the local weather bureau, we find that the Memphis climate is an average of 1034 HDD50, 2069 CDD65, and 806 VSEW, with 7807 CDH80. Using this information and referring to Table 5.4–1, we find that Table 5.4–21 is the appropriate ACP Table because Memphis' HDD50 falls within the 1001–1750 range, its CDD65 within the 1151–2000 range, and its VSEW within the 560–845 range. No range for CDH80 is listed for this climate on the ACP Table.

We could have also used the weather tables in Appendix A. It lists several cities for each State covered by the standards. In our example, we search first for the State of Tennessee and then for the city of Memphis. Memphis is one of four Tennessee cities listed and when we move to the extreme right column we find that Table 5.4–21 is the appropriate ACP Table. If the proposed design was located in another Tennessee community, a choice could be made of either the closest listed city or of a city with a similar climate. Care should be taken to choose a city that is climatologically similar to the proposed building site. For example, althouqh Albuquerque and Santa Fe, New Mexico are only 60 miles apart, they have quite different climates because of the 2000' elevation difference. Albuquerque is the closest city to Santa Fe that appears in Appendix A, but it would be the improper choice.

Appendix A.—Climate Data

No. and City	State	HDD50	HDD65	VS North	VS E-W	VS South	CDD50)	CDD65	CDH80	DRNG	ACP Table
Tennessee											
43 Chattanooga	TN	1232	3595	444	738	869	1652	1541	5079	17.6	5.4–19
108 Knoxville	TN	1283	3818	446	762	898	4455	1514	3840	17.8	5.4–19
134 Memphis	TN	1034	3259	460	806	935	5319	2069	7807	19.2	5.4–21
147 Nashville	TN	1165	3609	443	749	863	4583	1552	5078	18.2	5.4–19

Determination of Roof and Foundation Compliance

Once the appropriate ACP Table for the proposed design is selected, the next step is to determine if the proposed roof, foundation and floor design meets the prescriptive compliance criteria. The criteria for roofs, walls adjacent to unconditioned space, floors over unconditioned space, exterior wall insulation below grade and floor insulation for slab-on-grade floors must meet or exceed the values specified in Table 5.4–2. If skylights are employed in the proposed design, the allowance procedure presented in section 5.5.2.1 is used.

Our example proposed design is an office building with a parking garage below ground level. To comply with the standards our design must have roof and floor over unconditioned space U_o values and wall below grade R-values that meet or exceed the values specified in Table 5.4–2. After finding the row that corresponds with the appropriate ACP Table for Memphis (Table 5.4–21) we proceed to the right to find the maximum U_o and minimum R-values. The first column is labeled Roof Max U_o. The U_o value for the proposed design is 0.055 which exceeds the required 0.060 value. The second column is labeled Wall (Adjacent to Unconditioned Space) Max U_o. The proposed design does not call for any such walls so this step is skipped. The next column is labeled Floor (over Unconditioned Space) Max U_o.

TABLE 5.4-2.—REQUIRED OVERALL THERMAL TRANSMITTANCES (U_o) AND THERMAL RESISTANCES (R) OF BUILDING COMPONENTS WHEN USING ALTERNATE COMPONENT PACKAGES IN TABLES 5.4-4 THROUGH 5.4-33

ACP table No.	Roof max U_o	Wall (adjacent to uncond. space) max U_o	Floor (over uncond. space) max U_o	Exterior wall insula. below grade min. R	Floor insulation for slab on grade (minimum R)											
					Unheated slab						Heated slab					
					Horizontal below slab-distance in from edge (in.)			Vertical (down) distance down from top of slab (in.)			Horizontal below slab-distance in from edge (in.)			Vertical (down) distance down from top of slab (in.)		
					24	36	48	24	36	48	24	36	48	24	36	48
5.4-21	0.06	0.21	0.089	7	11	9	8	6	5	4	13	11	10	8	7	6
5.4-22	0.06	0.16	0.06	8	15	13	10	7	6	4	17	15	12	9	8	6
5.4-23	0.056	0.14	0.051	9	16	13	10	7	6	4	18	15	12	9	8	6
5.4-24	0.056	0.15	0.054	9	16	13	10	7	6	4	18	15	12	9	8	6
5.4-25	0.059	0.16	0.065	8	15	12	10	7	5	4	17	14	12	9	7	6

The value in the proposed design for the walls is 0.075 which also exceeds the compliance value of 0.089.

The fourth column is for Exterior Wall Insulation Below Grade Min. R. In the example, the R-value for such walls meets the compliance value of 7. The final 12 columns contain compliance values for Unheated and Heated Floor Insulation for Slab-on-Grade Floors, with insulation either being placed horizontally or vertically to the slab and for varying distances. Having met or exceeded the compliance values for the various components, the proposed design, so far, meets compliance.

Determination of Opaque Wall Assembly and Fenestration Compliance

The next step is to determine compliance of the proposed design's opaque wall and fenestration assembly.

Step 1: Enter the ACP Table at the appropriate Internal Load Range, labeled #1. In our example, we use Table 5.4–21. A sample is provided below for illustration purposes. Since the internal load range of the proposed design is 2.35, the fourth row is selected.

Step 2: Proceed horizontally to the column labeled #2, Shading Coefficient Range and select the appropriate row that corresponds to the proposed design's Shading Coefficient which is in the 0.599–0.50 range in the example. Draw an horizontal line across the row selected.

Step 3: Moving from left to right across the drawn line to the Maximum Percent Fenestration values, labeled #3, circle the Maximum Percent Fenestration values that are equal to or greater than the percent fenestration selected for the proposed design. If one or more values are circled, they represent the possible compliance paths; proceed to the next step. If no values are circled, the proposed design does not comply.

Since the proposed design will employ 30% fenestration, there are no possible compliance path under the Base Case option, two possible paths under the Perimeter Daylighting option, five possible paths under the High Performance Glazing with Perimeter Daylighting option, and one path under the Wall Thermal Mass option.

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ACP Table—Example

ALTERNATE COMPONENT PACKAGES FOR:

HDD50 = 1751-2600
CDD65 = 0-1150
VSEW = 560-845
CDH80 = N/A

(1) INTERNAL LOAD RANGE

(2) SHADING COEFFICIENT

0 - 1.0	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00
1.01 - 1.5	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00
1.51 - 2.0	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00
2.01 - 2.5	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00
2.51 - 3.0	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00
3.01 - 3.5	1.000 - 0.71 0.709 - 0.60 0.599 - 0.50 0.499 - 0.38 0.379 - 0.25 0.249 - 0.00

BASE CASE					
PCT FENESTR			PCT FENESTR		
21	26	31	24	31	38
25	30	34	29	36	44
28	32	36	33	41	49
30	35	39	38	46	54
35	39	42	46	54	61
40	43	45	57	64	70
21	26	31	24	30	37
25	30	34	28	36	44
28	33	37	33	41	49
31	36	40	38	46	54
35	40	43	46	54	62
41	45	48	58	66	72
21	26	31	23	30	37
25	30	35	28	35	43
28	33	38	32	40	49
31	36	41	37	46	54
36	41	45	46	55	63
43	47	50	59	67	75
19	23	28	20	26	33
22	27	31	25	31	38
25	30	34	28	36	43
28	33	37	33	41	49
33	38	42	41	49	57
40	44	47	53	62	69
17	21	25	18	23	29
20	24	29	22	28	35
22	27	32	25	32	39
25	30	35	30	37	45
30	35	39	37	45	53
37	42	45	49	57	65
15	18	22	16	20	25
17	22	26	19	25	30
20	24	29	22	28	35
23	27	32	26	33	40
27	32	36	33	40	47
34	39	42	44	52	59

(4) PROJECTION FACTOR

.0	.25	.5	.0	.25	.5

(5) U_{wf}

0.68 - 0.46	0.45 - 0.00

(6) U_{ow} AND HC

AS SPECIFIED IN TABLE 5.4-34

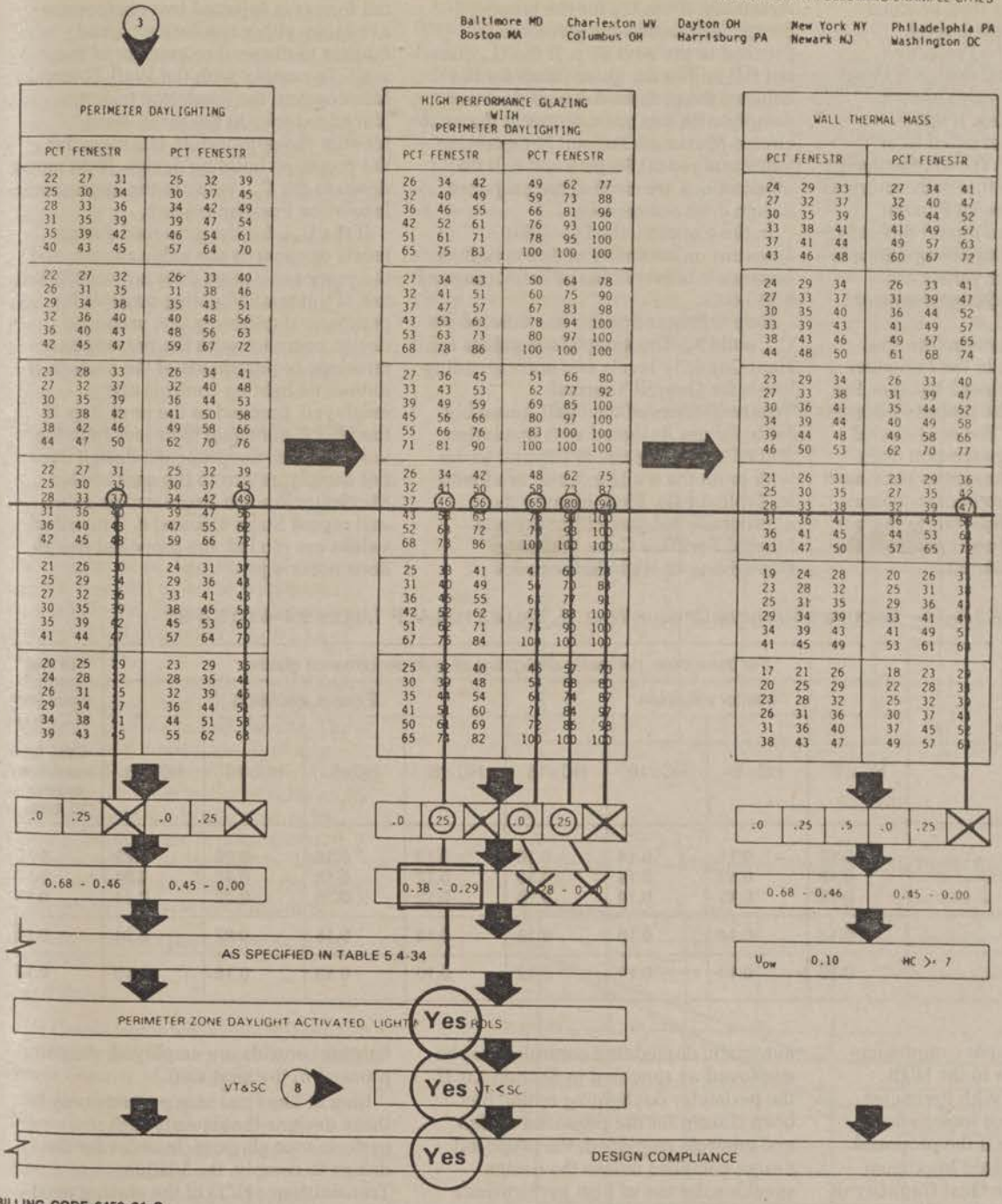
(7) LIGHTING CONTROLS

(9) COMPLIANCE

DESIGN COMPLIANCE

TABLE NUMBER 5.A.22
INCLUDING THE FOLLOWING EXAMPLE CITIES

Baltimore MD, Boston MA, Charleston WV, Columbus OH, Dayton OH, Harrisburg PA, New York NY, Newark NJ, Philadelphia PA, Washington DC



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Step 4: At the first circled Maximum Percent Fenestration value, proceed downward to boxes labeled #4, Projection Factor. If the Projection Factor for the proposed design is equal to or greater than the value shown, proceed to the next step. If the Projection Factor is not equal to or greater than the value shown, the design does not comply with this path; return to the next circled Maximum Percent Fenestration value and repeat this step. Continue this action until compliance is determined. If no other values are circled, the proposed design does not comply.

Following the instructions we find that the possible path in the Perimeter Daylighting group is closed because the Projection Factor of the proposed design is not 0.50 or greater. The next circled Maximum Percent Fenestration does allow us to go to the next step because it is in the 0.25 Projection Factor column.

Step 5: Proceed downward to the box labeled #5, U_{of}. This box represents the Maximum Overall Thermal Transmittance of the Fenestration Assembly. If the U_{of} for the proposed design falls within the given range, proceed to the next step. If the U_{of} does not fall within the given range for the column, the proposed design does not comply with this path; return to the next circled Maximum Percent Fenestration value and repeat Steps 4 and 5. If no other values are circled, the proposed design does not comply.

In the example, the U_{of} of the fenestration assembly of 0.32 complies because it falls within the listed range of 0.38—0.29.

Step 6: Proceed to the box labeled #6, U_{ow} and HC. The compliance values for Heat Capacity levels and corresponding levels for Overall Thermal Transmittances of the Wall Assembly for buildings designed with insulation placed either Interior or Integral to the wall or on the walls exterior are found in Table 5.4–34. First, identify the appropriate column, either the one labeled For Base Case, Perimeter Daylighting or High Performance Glazing or For Wall Thermal Mass. If the former is selected two choices are available, either insulation placed interior to the wall or exterior to the wall. To comply with the Wall Thermal Mass option, the insulation must be placed exterior to the mass. Next identify the appropriate HC range for the proposed building design. Next move down to the U_{ow} value in the appropriate Insulation Position column.

If the $U_{o\,w}$ for the proposed design meets or exceeds the value shown, and the proposed design does not specify the use of automatic lighting controls for perimeter daylighting, the proposed design complies with the prescriptive envelope requirements of the section. If automatic lighting controls are employed, proceed to the next step. If the $U_{o\,w}$ is not equal to or less than the value shown, the proposed design does not comply; return to the next circled Maximum Percent Fenestration value and repeat Steps 4, 5, and 6. If no other values are circled, the proposed design does not comply.

TABLE 5.4–34.—REQUIRED MAXIMUM OPAQUE WALL U_o VALUES FOR ACP TABLES 5.4–4 TO 5.4–33

ACP table	For base case, perimeter daylighting or high performance glazing								For wall thermal mass (for HC>=7)
	Interior insulation				Exterior insulation				
	HC<5	HC>5	HC>10	HC>15	HC<5	HC>5	HC>10	HC>15	Only for insulation exterior to mass
5.4–18	0.10	0.11	0.14	0.16	0.10	0.16	0.20	0.22	0.10
5.4–19	0.12	0.13	0.16	0.19	0.12	0.18	0.22	0.24	0.12
5.4–20	0.12	0.13	0.16	0.19	0.12	0.18	0.22	0.24	0.12
5.4–21	0.13	0.14	0.16	0.19	0.13	0.18	0.22	0.24	0.13
5.4–22	0.10	0.10	0.11	0.12	0.10	0.13	0.15	0.16	0.10

Since our first possible compliance path in the example is in the High Performance Glazing with Perimeter Daylighting column, we look to that grouping to determine if the proposed design meets the required Maximum Opaque U_o Value. The Heat Capacity of the proposed design is 7 and the insulation is placed exterior to the wall, therefore we proceed to the grouping labeled Exterior Insulation and the column labeled HC>5. For ACP Table 5.4–21 the required U_o value is 0.18. With a U_o value of 0.17, the proposed design remains in compliance and we can proceed to the next step.

Step 7: Proceed to the box labeled #7, Lighting Controls. In order to take advantage of the perimeter daylighting trade-offs inherent in the Standards, automatic daylighting controls must be employed as specified in Section 3.0. If the perimeter daylighting option has been chosen for the proposed design and controls employed, the proposed design complies unless the design specifies the use of high performance glazings. If high performance glazings are specified, proceed to the next step. If the perimeter daylighting option is chosen and lighting controls are not employed, the proposed design does not comply; return to the next circled Maximum Percent Fenestration value and repeat Steps 5, 6, and 7. If no other values are circled, the proposed design does not comply.

Since perimeter daylighting has been chosen as an option in the proposed design and daylight-activated automatic lighting controls are employed, we can proceed to the next step.

Step 8: The final step pertains only to those designs that specify high performance glazings. In order for the design to comply, the Visible Transmittance (VT) of the glazing must be equal to or greater than the Shading Coefficient (SC).

The Visible Transmittance of the glazing to be used in the proposed design is 0.50 which is greater than the Shading Coefficient of 0.55 used in the proposed design, therefore the proposed design complies with the standards.

Had we not reached compliance with this path we would have gone to the next possible compliance path signified by the circled Maximum Percent Fenestration value. In the example, we

still had five possibilities, four under the High Performance Glazing with Perimeter Daylighting option and one under the Wall Thermal Mass option. For illustration purposes only, we follow these five possible compliance paths on our sample ACP Table to see if the proposed design would comply in any other path. Inspecting our sample ACP Table, we find that the first possible path ends with the Projection Factor and the second and third possible alternatives are closed because the $U_{o\,f}$ of the proposed design exceeds the allowable range for compliance. The third alternative also ends with the Projection Factor. In the last alternative, in the Wall Thermal Mass option, we find that the Projection Factor again halts compliance.

Appendix D to Subpart A of Part 435—Rules for External Wall Criteria

Rules to Determine the Thermal Transmissions Criteria for External Walls

The purpose of Appendix D is to explain how the external wall criteria was developed. Compliance procedures are presented in section 5.4 and 5.5 of the standards.

The criteria for compliance of external walls are space loads that change by building type for use and climate. The space loads of a base case building constructed using the rules listed below constitute the criteria. Some rules apply to all locations while others vary by climate. Compliance is demonstrated when the space loads of the building being evaluated are less than the space loads set by the base case building.

The Rules for the Base Case Building Configuration

Fixed Rules

(1) Combined internal loads from Lighting Power Density and Equipment Power Density of 2.25 W/ft^2,

(2) An aspect ratio of 2:1, with longer dimensions facing east and west,

(3) No use of external shading projections or screens,

(4) No use of automatic daylight controls for the lighting system, and

(5) A heat capacity of the external walls less than HC=5,

Climate Dependent Rules

Climate data for use in determining the criteria are contained in Appendix A.

(6) The window-wall ratio shall not be greater than the smaller of the values shown in Figure D–1 or the applicable value shown in Figure D–2.

(7) The shading coefficient value SC_x shall not be greater than the applicable value shown in Figure D–3.

(8) The opaque portion of the walls shall have an overall thermal transmittance ($U_{o\,w}$) not greater than the value specified in Figure D–4.

(9) The overall thermal transmittance (U_{of}) of fenestration assemblies shall not exceed the value specified in Figure D–5.

Rules for Variations in Internal Loads

(10) For a building, that meets the rules listed above, but with internal loads that vary from 2.25 W/ft^2, the window-wall ratio shall be varied by linear interpolation using the values shown in Figure D–2. The resulting window wall ratio shall not be greater than the smaller of the value determined in Figure D–1 or the value determined in Figure D–2.

(11) A building with an internal load greater than 2.5 W/ft^2 shall use the values for 2.5 W/ft^2 in Figure D–2.

Figure D–1.—Maximum Window Wall Ratio Heating

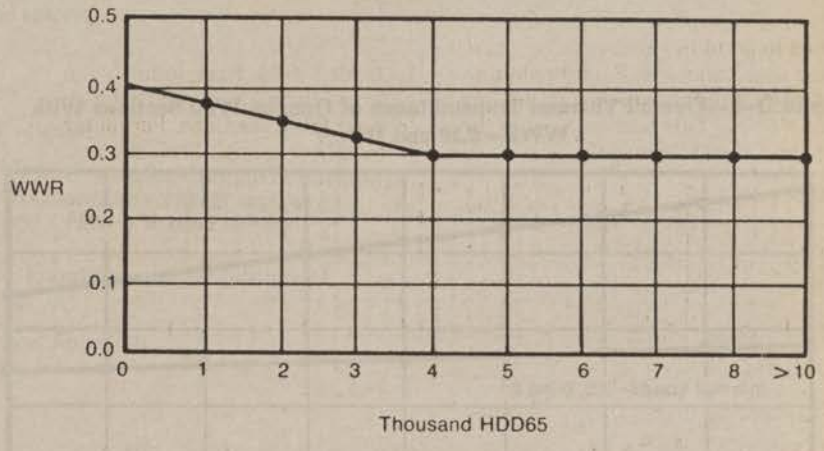


Figure D–2.—Maximum Window Wall Ratio Cooling

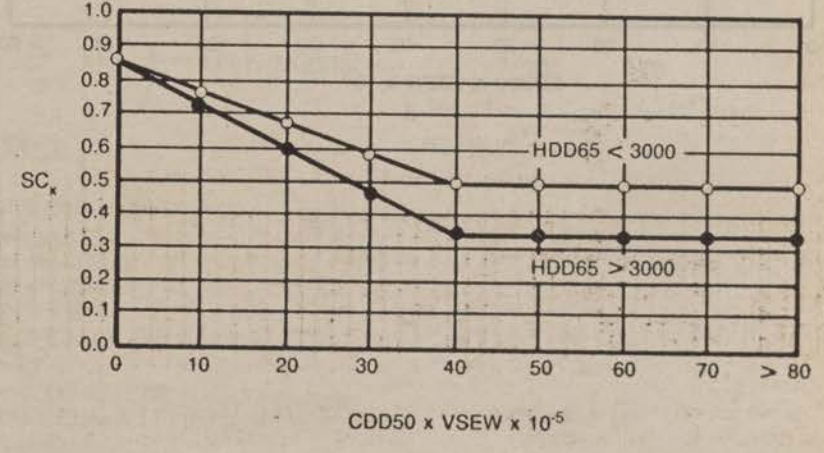


Figure D–3.—Maximum Shading Coefficient

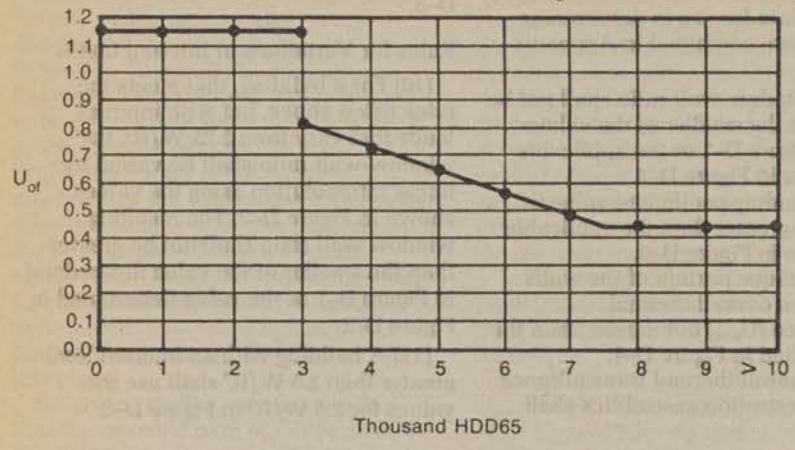


Figure D–4.—Overall Thermal Transmittance of Opaque Wall Sections With WWR=0.30 and HC<7

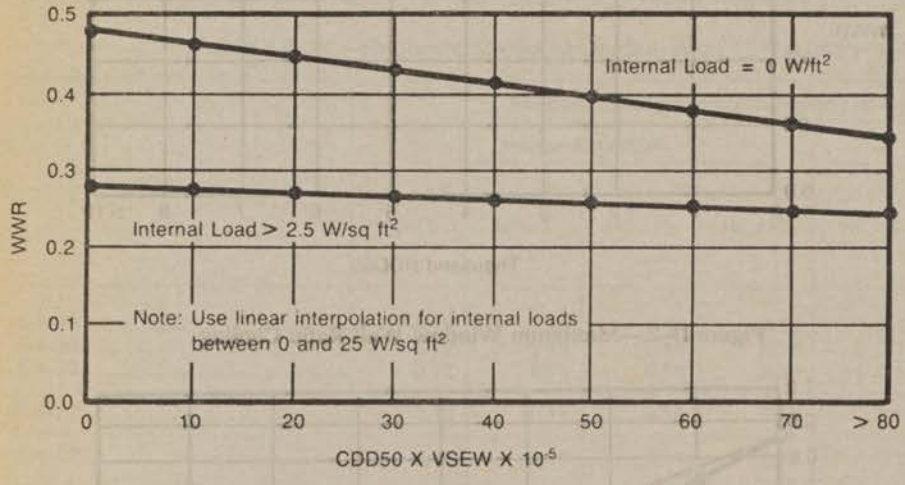
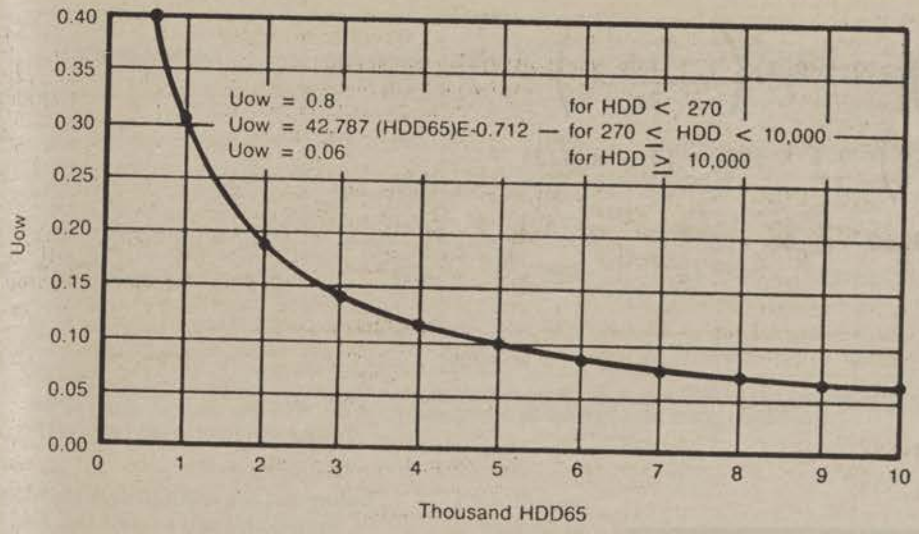


Figure D–5.—Maximum Overall Thermal Transmittance of Penetration Assemblies



Appendix E to Subpart A of Part 435—Example Calculations for Integrated Part-Load Values (For Equipment Covered by ARI Standards 340–86, 360–86 and 365–85)

E1.1 Purpose

This section shows example calculations for determining Integrated Part Load Values (IPLV).

E1.2 Scope

This section is for equipment covered by *ARI Standards 340–86, 360–86 and 365–85.*

E1.3 Equations and Definitions of Terms

General Equation

General Equation

$$IPLV = (PLF_1 - PLF_2)\left(\frac{EER_1 + EER_2}{2}\right) + PLF_2 - PLF_1\left(\frac{EER_2 + EER_1}{2}\right)$$

$$+ \cdots\cdots\cdots + (PLF_{n1} - PLF_n)\left(\frac{EER_n + EER_n}{2}\right) + (PLF_n)(EER_n)$$

Equation E1-1

Where:

PLF = Part-Load Factor determined from Figure E1–1

n = Total number of capacity steps

Subscript 1 = 100% capacity and EER at part-load rating conditions

Subscript 2,3,etc. = Specific capacity steps per Section 5.2 of the applicable ARI Standard

Example Calculations for Integrated Part-Load Values (For Equipment Covered by ARI Standards 340–86, 360–86 and 365–85)

E1.4 Calculation Example for a Four Capacity Step System

Unit Performance Data and Sample Calculation

Step 1: Assume equipment has four capacity steps as follows:

- 100% (full load).
- 75% of full load.
- 50% of full load.
- 25% of full load.

Step 2: Obtain part-load factors from Figure E1–1.

Step 3: Obtain EER at each capacity step per section 5.2 of the applicable ARI Standard.

Step 4: Calculate IPLV using the general equation with:

$n = 4$
$PLF_1 = 1.0$
$PLF_2 = 0.9$
$PLF_3 = 0.4$
$PLF_4 = 0.1$
$EER_1 = 8.9$
$EER_2 = 7.7$
$EER_3 = 7.1$
$EER_4 = 5.0$

Enter the above values in Equation E1–1.

$$IPLV = 1.0\text{-}0.9\left(\frac{8.9 + 7.7}{2}\right) + (0.9\text{-}0.4)\left(\frac{7.7 + 7.1}{2}\right)$$

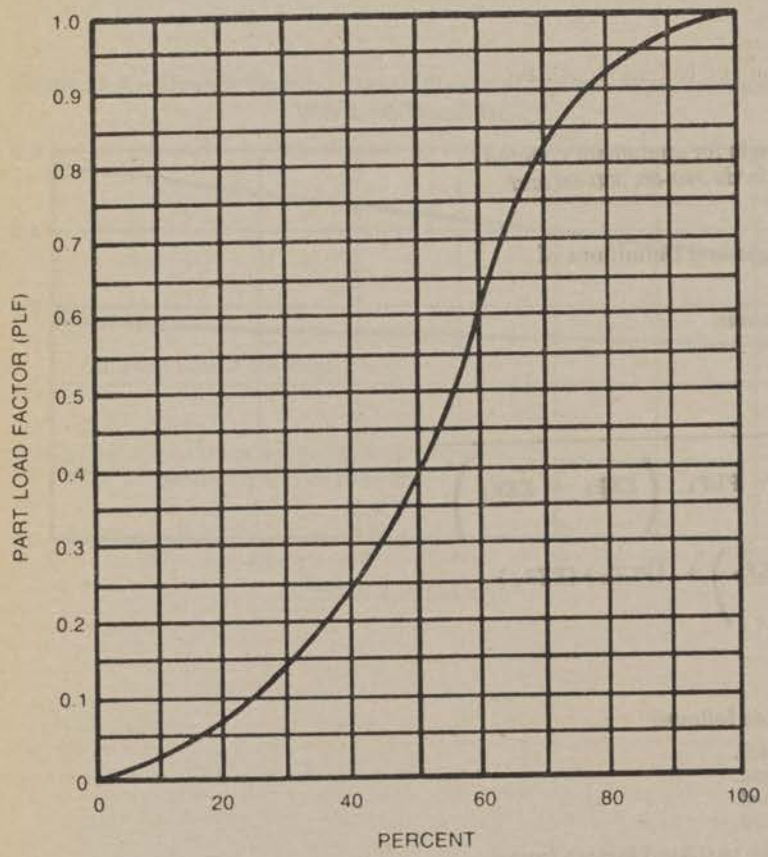
$$+ (0.4\text{-}0.1)\left(\frac{7.1 + 5.0}{2}\right) + 0.1 \times 5.0 = (0.1 \times 8.3) +$$

$$(0.5 \times 7.4) + (0.3 + 3.70 + 1.80 + 0.5$$

$$IPLV = 6.83, \text{ rounded to } 6.8$$

To further illustrate the calculation process see Figure E1–2.

Figure E1–1



Percent of Full-Load Capacity at Part-Load Conditions

Note.—Curve is based on following equation:

$PLF = AO + (A1 \times Q) + (A2 \times Q^2) + (A3 \times Q^3) + (A4 \times Q^4) + (A5 \times Q^5) + (A6 \times Q^6)$

Where:

PLF = Part Load Factor

A = Percent of full-load capacity at part load rating conditions.

$AO = -0.12773917 \times 10^{-6}$

$A1 = -0.27648713 \times 10^{-3}$

$A2 = 0.50672449 \times 10^{-3}$

$A3 = -0.25966636 \times 10^{-4}$

$A4 = 0.69875354 \times 10^{-6}$

$A5 = -0.76859712 \times 10^{-8}$

$A6 = 0.28918272 \times 10^{-10}$

FIGURE E1-2.—EXAMPLE IPLV CALCULATION

Capacity step	Mfrs. net cap. (tons) (for R only)	Percent full load cap.	PLF [3]	Mfrs. part load EER	Avg. part load EER	PLF diff. avg. EER × PLF diff=weighted average
1	50.0	100	1.0	8.9 [2]		
					=8.3	(1.0–0.9)=1.0 8.3×0.1=0.83
2	37.5	75	0.9	7.7		
					=7.4	(0.9–0.4)=0.5 7.4×0.5=3.70
3	25.0	50	0.4	7.1		
					=6.0	(0.4–0.1)=0.3 6.0×0.3=1.80
4	12.5	25	0.1	5.0		
					=5.0 [1]	(0.1–0.0)=1.0 5.01×0.1=0.50
						Single Number IPLV 6.83*
						*Rounded to 6.8

[1] For the range between 0% capacity and the last capacity step, use EER of the last capacity step for the average EER.
[2] For 100% capacity and EER are to be determined at the part-load rating conditions.
[3] Part-load factor from figure E.1-1.

Example Calculations for Integrated Part-Load Values (for Equipment Covered by ARI Standards 550–86)

E2.1 Purpose

This section shows an example of calculations for determining Integrated Part Load Values (IPLV).

E2.2 Scope

This section is for equipment covered by ARI Standard 550–86.

E2.3 Equation and Definition of Terms

General Equation (see Section 5.1.6.2 of Standard 550-86)

$$IPLV = 0.1\left(\frac{A + B}{2}\right) + 0.5\left(\frac{B + C}{2}\right) + 0.3\left(\frac{C + D}{2}\right) + 0.1D$$

Equation E2-1

Where:
A=kw/ton at 100% load point
B=kw/ton at 75% load point
C=kw/ton at 50% load point
D=kw/ton at 25% load point

And refering to the Calculation Example in Figure E2-2:

$$IPLV = 0.1\left(\frac{7.0 + 0.62}{2}\right) + 0.5\left(\frac{0.62 = 0.60}{2}\right) + 0.3\left(\frac{0.60 + 0.71}{2}\right) - 0.1$$

$$= 0.1\ (0.66) + 0.5(0.61) + 0.3\ (0.66) + 0.1(0.71) = 0.066$$

$$+ 0.305 - 0.1$$

$$IPLV = 0.64$$

FIGURE E2-1.—EXAMPLE IPLV CALCULATION

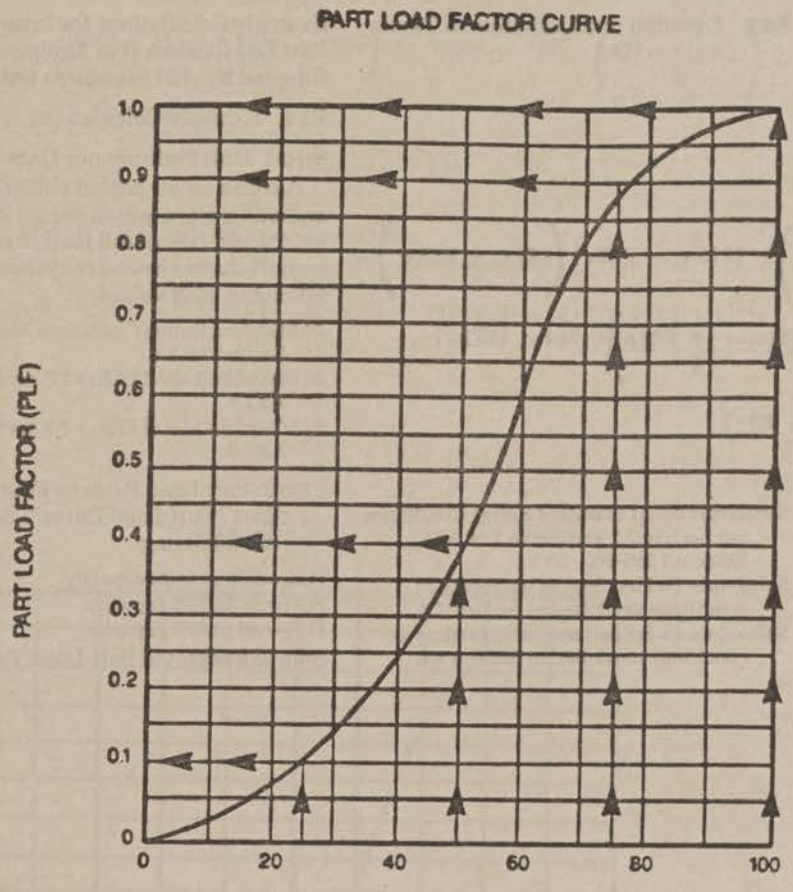
Capacity step	Mfrs. net cap. (tons) (for R only)	Percent full load cap.	PLF [3]	Mfrs. part load EER	Avg. part load EER	PLF diff. avg. EER×PLF diff=weighted average
1	12.5	25	0.1	0.71		
					=[3] 0.71	(0.1-0.0)=0.1 0.71×0.1=0.071
2	25.0	50	0.4	0.60		
					=0.66	(0.4-0.1)=0.3 0.66×0.3=0.198
3	37.5	75	0.9	0.62		
					=0.61	(0.9-0.4)=0.5 0.61×0.5=0.305
4	50.0	100	1.0	[1] 0.70		
					=0.66	(1.0-0.9)=0.1 0.66×0.1=0.066
						Single Number IPLV 0.64

NOTES:

1. For centrifugal and rotary type water chilling packages as covered by the standards, the kw/ton and capacities used to calculate the single number IPLV are to be at 100%, 75%, 50%, and 25% of full-load capacity.
2. All part-load capacities and kw ton are at part-load rating conditions as determined by the standards.
3. For the range between 0% capacity and the last stage, use the kw/ton of the last stage for the average kw/ton.
4. The 100% capacity and kw/ton are to be determined at the part-load rating condition.
5. Part-load factor from Figure E2-2.

BILLING CODE 6450-01-M

FIGURE E2-2



NOTE: Curve is based on following equation:

$$PLF = A0 + (A1xQ) + (A2xQ^2) + (A3xQ^3) + (A4xQ^4) + (A4xQ^5) + (A6xQ^6)$$

Where:

PLF = Part Load Factor
A = Percent of full-load capacity at part load rating conditions.
A0 = $-0.12773917 \times 10^{-6}$
A1 = $-0.27648713 \times 10^{-3}$
A2 = $0.50672449 \times 10^{-3}$
A3 = $-0.25966636 \times 10^{-4}$
A4 = $0.69875354 \times 10^{-6}$
A5 = $-0.76859712 \times 10^{-8}$
A6 = $0.28918272 \times 10^{-10}$

BILLING CODE 6450-01-C

Example Calculations for Integrated Part-Load Values (For Equipment Covered by ARI Standards 590–86)

E3.1 Purpose

This section shows the method of calculating and an example calculation for determining Integrated Part-Load Values (IPLV).

E3.2 Scope

This section is for water chiller packages as described in Section 4 of the ARI Standard 590–86.

E3.3 Equation and Definition of Terms

General Equation:

$$IPLV = (PLF_o - PLF_1)\left(\frac{EER_o + EER_1}{2}\right) + (PLF_1 - PLF_2)\left(\frac{EER_1 + EER_2}{2}\right)$$

$$+ \ldots\ldots\ldots + (PLF_{N-1} - PLF_n)\left(\frac{EER_{n-1} + EERn}{2}\right) + PLF_n\ (EER_n)$$

Equation E3-1

Where:

IPLV = Integrated Part Value

PLF = Part Load Factor as determined from Figure E3–1 at a specific operating condition.

EER = Energy Efficiency Ratio at a specific operating: condition.

Subscripts 0 = At Standard Rating Conditions per Section 7.1 and Table 2 of ARI Standard 590–86.

Subscripts 1 = First Step of unloading at conditions described in Section 7.3.

Subscripts 2 = Second step of unloading at conditions described in Section 7.3.

..... = Subscripts for additional steps of unloading within the capability of the equipment.

n = Last step of unloading at conditions described in Section 7.3.

Example Calculations for Integrated Part-Load Values (For Equipment Covered by ARI Standards 590–86)

E3.4 Example Calculations

Step 1: Unit Performance Data

Assume an air cooled chiller has two unloading steps which permit operation at 75% and 50% of full load. Assume the manufacturers have determined the following: EER values:

At Standard Rating Conditions $EER_o = 8.9$ per Section 7.1.2.e.

At 85% of Full-Load $EER_1 = 7.7$ per Section 7.3.2.e.

At 50% of Full-Load $EER_2 = 7.1$ per Section 7.3.2.d.

Step 2: Part-Load Factors. From Figure E3–1 "Part-Load Curve", determine the following:

$PLF_n = 1.00$ at 100% capacity.

$PLF_1 = .90$ at 75% capacity.

$PLF_2 = .40$ at 50% capacity.

Step 3: Integrated Part-Load Value.

Percent of Full-Load Capacity at PartLoad Conditions per Section 7.3 of ARI Standard 590–86

Since there are only two steps of unloading, (n=2), the equation for this unit is Equation E3-1.

$$IPLV = (PLF_0 - PLF_1)\left(\frac{EER_0 + EER_1}{2}\right) + (PLF_1 - PLF_2)\left(\frac{EER_1 + EER_1}{2}\right) + PLF_2(EER_2)$$

Equation E3-1

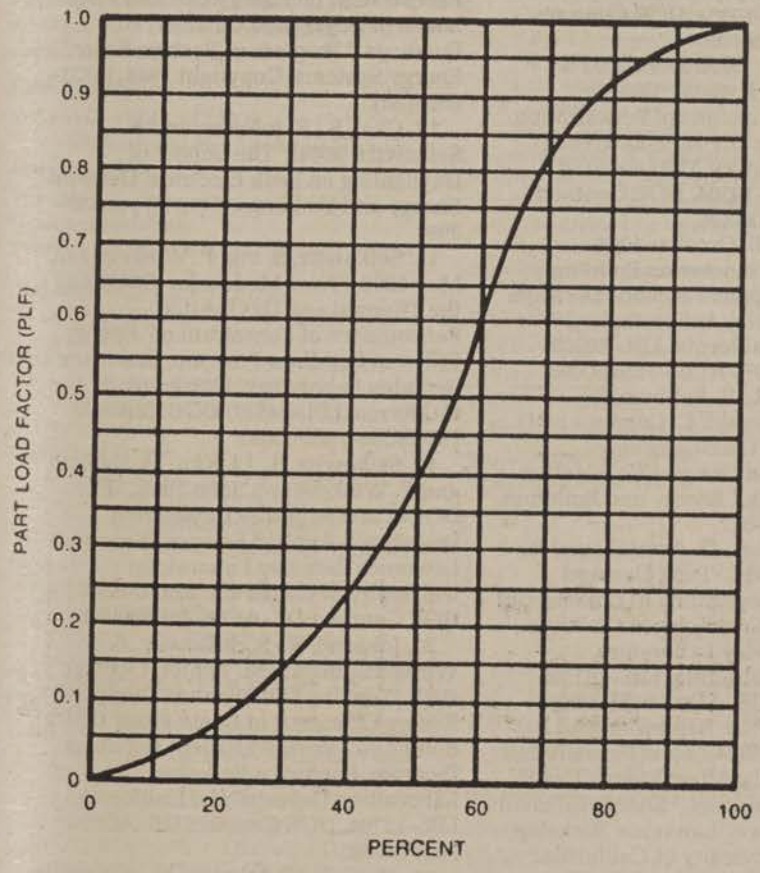
Substituting:

$$IPLV = (1.00-.90)\ \frac{8.9+7.7}{2} + (.90-.40)\left(\frac{7.7+7.1}{2}\right) + .40(7.1) = .10(8.3)+.50(7.4)+.40(7.1)$$

$$= .83 + 3.70 + 2.84$$

$$IPLV = 7.37$$

Figure E3–1



Note.—Curve is based on following equation:

$$PLF = AO + (A1 \times Q) + (A2 \times Q^2) + (A3 \times Q^3) + (A4 \times Q^4) + (A5 \times Q^5) + (A6 \times Q^6)$$

Where:

PLF = Part-Load Factor

A = Percent of full-load capacity at part-load rating conditions.

$A0 = -0.12773917 \times 10^{-6}$

$A1 = -0.27648713 \times 10^{-3}$

$A2 = 0.50672449 \times 10^{-3}$

$A3 = -0.25966636 \times 10^{-4}$

$A4 = 0.69875354 \times 10^{-6}$

$A5 = -0.76859712 \times 10^{-8}$

$A6 = 0.28918272 \times 10^{-10}$

Appendix F to Subpart A of Part 435—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 parts)
- 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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Attachment A to Part 435 Subpart A—Equations To Determine External Wall Heating and Cooling Criteria and To Determine Compliance With the Criteria

A.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 may be interpolated.

The equations are based on a database of 2898 DOE 2.1B runs for 36 climate locations. The DOE 2.1B database includes a wide range of effective aperatures, internal gains, and envelope overall U-values (U_o) in addition to a range of wall heat capacities and U-values.

Cooling Equation

WC_{ci} or $C_i = CLU_i + CLUO_i + CLXUO_i + CLM_i + CLG_i + CLS_i + CLC_i$

Equation 5.5-2

Where:

i = each orientation

j = each wall mass construction type within orientation

$CLU = FO * U_{ow} * [CU1 * CDH80 + CU2 * CDH80_2 + CU3 * (VS * CDH80)_2 + CU4 * DR]$

$CLUO = FC * UOC * [CUO1 * EA * VS * CDD50 + CUO2 * G + CU03 * G^2 * EA^2 * VS * CDD50 + CU04 * G^2 * EA^2 * VS * CDD65]$

$CLXUO = FC * (1/UOC) * [CXUO1 * EA * VS * CDD50 + CXU02 * EA * (US * CDD50)^2 + CXU03 * G * CDD50 + CXU04 * G^2 * EA^2 * VS * CDD50 + CXU05 * G^2 * CDD65]$

$CLM = FO_j * CMC_i * [CM1 + CM2 * EA * VS * CDD50 + CM3 * EA * VS * CDD65 + CM4 * EA^2 * VS * CDD50 + CH5 * G^2 * CDD65 + CM6 * G * CDD50 + CM7 * G * CDD65 + CM8 * G * EA * VS * CDD50]$

$CLG = FC * \{G * [CG1 + CG2 * CDD50 + CG3 * EA * (VS * CDD50)^2 + CG4 * EA_2 * VS * EA * (VS * CDD50 + CG5 * CDD65 + CG6 * CDD50^3 + CG7 * CDD65^3] + G^2 * [CG8 * EA * VS * CDD50 + CG9 * EA^2 * VS * CDD50]\}$

$CLS = FC * \{EA * [CS1 + CS2 * VS * CDD50 + CS3 * (VS * CDD50)^2 + CS4 * VS * CDD65 + CS5 * (VS * CDD65)^2] + EA^2 * [CS6 + CS7 * (VS * CDD65)^2]\}$

$CLC = FC * [CC1 * CDD50 + CC2 * CDD50^2 + CC3 * CDH80^2 + CC4 * CDH80^2 + CC5 * CDD65 + CC6 * (VS * CDD65)^2 + CC7 * VS * CDD50 + CC8 * (VS * CDD50)^2 + CC9 * (VS * CDH80)^2 + CC10 * VS + CC11 * DR + CC12 * DR^2 + CC13]$

Where:

Climate Data

CDD50 = Cooling degree-days base 50 F°

CDD65 = Cooling degree-days base 65 F°

CDH80 = Cooling degree-hours base 80 F°

DR = Average daily temperature range for warmest month.

VS = Annual average daily incident solar energy on facade under consideration, Btu/ft²/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.

$U_{o\,w}$ = 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.

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:

$EA = WWR * SC_x * S_{e\,h}$

Equation 5.5-3

Where:

For $0.0 \leq PF \leq 0.5$ from Equation 5.4-1

For the north orientation:

$S_{e\,h} = 1 - 0.4 * PF$

Equation 5.5-3a

$$\left[1 - e^{-CP_1 (HC-1)}\right]\left[CP_2 + CP_3 U - \frac{CP_4}{1 + (CP_5 + CP_6 U) e^{-(CP_7 + CP_8 U^2)(HC-1)}}\right]\left[\frac{1.0}{0.7}\right]$$

Where:

HC = Wall Heat Capacity (Btu/ft²-F°).

U = Wall U-Value (Btu/h/ft²-F°).

A = (Cooling degree-hours base 80F°)/10000 + 2 (F°·h).

B = (Daily Range)/10 + (F°).

Where:

$CP_1 = C_6$

$CP_2 = C_{15}/B^3 + C_{16}/(A^2B^2) + C_{17}$

For the east, south and west orientations:

$S_{e\,c} = 1 - 1.4877 * PF + 1.0489 * PF^2$

Equation 5.5-3b

G = Effective internal gain (W/ft²) for zone under consideration, where:

$G = E_p + L_p * (1 - R_c * K_d)$

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.

$K_d = 5.871 (WWR * VT * S_{e\,h}) - 13.311 (WWR * VT * S_{e\,h})^2$

Equation 5.5-4a

If $(WWR * VT * S_{e\,c}) > 0.22$, 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.

VT = Visible 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 greater than 0.40, then $U_{o\,w} = 0.4$ shall be used to calculate the CMC. If the U-value of the mass wall is less than 0.05, then $U_{o\,w} = 0.05$ 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

Equation 5.5-5 is used to predict the Cooling Delta Load Factor values.

Cooling Delta Load Factor =

$$\left[1 - e^{-CP_1 (HC-1)}\right]\left[CP_2 + CP_3 U - \frac{CP_4}{1 + (CP_5 + CP_6 U) e^{-(CP_7 + CP_8 U^2)(HC-1)}}\right]\left[\frac{1.0}{0.7}\right]$$

$CP_3 = C_1/A^3 + C_2B^3 + C_2B^3 + C^3/(A^2\sqrt{B}) + C_4$

$CP_4 = C_{12}/(A^2B^2) + C_{13}/B^3 + C_{14}$

$CP_5 = C_{18}$

$CP_6 = C_6 LN(A)\sqrt{B} + C_7$

$CP_7 C_{19}/(A^2B^2) + C_{20}/(AB) + C_{21}A^2\sqrt{B} + C_{22}$

$CP_8 = C_8/(A^2B^2) + C_9/(AB) + C_{10}A^2/\sqrt{B} + C_{11}$

The coefficients C1 through C22 are taken from the following table.

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 5.5-2.—COOLING COEFFICIENTS

	North	East	South	West
CUI	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
CMI	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-5	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
CUOI	−0.651094E-05	−0.838669E-05	−0.888996E-05	−0.756465E-05
CUO2	−1.040207	−1.507235	−1.512625	−1.238515
CUO3	−0.438254E-05	−0.278828E-05	−0.231352E-05	−0.412567E-05
CU04	0.126580E-04	0.809874E-05	0.736219E-05	0.106712E-04
CXUOI	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
CGI	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
CSI	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
CCI	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

TABLE 5.5-2.—COOLING COEFFICIENTS—Continued

	North	East	South	West
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-01	−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	0.389125E-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

Heating Equation

$WC_{h\,i}$ or $H_i = HLU_i + HLUO_i + HLXUO_i + HLM_i + HLG_i + HLS_i + HLC_i$

Equation 5.5-6

Where:

i = for each orientation

j = for each wall mass construction type for the orientation

$HLU = FO * U_{o\,w} * [HU1 * HDD50 + HU2 * (VS * HDD65)^2]$

$HLUO = FC * UOH * [HUO1 * HDD50 + HUO2 * HDD65 + HUO3 * EA * VS * HDD65]$

$HLXUO = FC * \{(1/UOH) * [HXUO1 * EA * (VS * HDD50)^2 + HXU02 * EA * (VS * HDD65)^2] + (1/UOH^2) * [HXU03 * EA^2 * VS * HDD65]\}$

$HLM = FO_j * HMC_j * [HM1 + HM2 * G * UOH * HDD65 + HM3 * G^2 * EA^2 * VS * HDD50 + HM4 * UOH * EA * VS * HDD65 + HM5 * UOH * HDD50 + HM6 * EA * (VS * HDD65)^2 + HM7 * EA^2 * VS * HDD65/UOH]$

$HLG = FC * \{G * [HG1 * HDD65 + HGZ * UOH * HDD65 + HG3 * EA * VS * HDD65 + HG4 * EA^2 * VS * HDD50] + G^2 * [HG5 * HDD65 + HG6 * EA^2 * VS * HDD65]\}$

$HLS = FC * \{EA * [HS1 * VS * HDD65 + HS2 * (VS * HDD50)^2] + EA^2 * [HS3 * VS * HDD50 + HS4 * VS * HDD65]\}$

$HLC = FC * [HC1 + HC2 * HDD65 + HC3 * HDD65^2 + HC4 * VS^2 + HC5 * VS * HDD50 + HC6 * VS * HDD65 + HC7 * (VS * HDD50)^2]$

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/ft²-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.

$U_{o\,w}$ = 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.

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.

$EA = WWR * SC * S_{e\,h}$

Equation 5.5-7

Where:

For $0.0 < PF < 0.5$, from Equation 5.4-1:

For the north orientation:

$S_{e\,h} = 1 - 0.3 * PF$

Equation 5.5-7a

For the east, south and west orientation:

$S_{e\,h} = 1 - 0.986 * PF + 0.4513 * PF^2$

Equation 5.5-8

G = Effective internal gain (W/ft²) for zone under consideration.

$G = E_p + L_p * (1 - R_c * K_d)$

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.

R_c = The ratio of the electric lights in the space served by the orientation that have automatic controls for daylighting.

$K_d = 5.871\,(WWR * VT * S_{e\,h})^2 - 13.311\,(WWR * VT * S_{e\,h})^2$

Equation 5.5-8a

If $WWR * VT * S_e > 0.22$, 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.

VT = Visible 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 $U_{o\,w} = 0.4$ shall be used to calculate the HMC. If the U-value of the mass wall is less than 0.05, then $U_{o\,w} = 0.05$ 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

Equation 5.5-9 is used to predict the heating Delta Load Factor values.

Heating Delta Load Factor =

$$\left[1 - e^{-HP_1 (HC-1)}\right]\left[HP_2 + HP_3 U - \frac{HP_4}{1 + (HP_5 + HP_6 U)\, e^{-(HP_7 + HP_8 U^{HP_9})(HC-1)}}\right]\left[\frac{1.0}{0.7}\right]$$

Where:

HC = Wall Heat Capacity (Btu/ft² · F°)

U = Wall U-Value (Btu/h · ft²-F°)

A = (Heating degree-days base 65 F°/100 + 2 (F° · days)

Where:

$HP_1 = H_6$

$HP_2 = H_{14} LN(A) + H_{15}$

$HP_3 = H_1 A^3 + H_2 A^2 + H_3/\sqrt{A} + H_4\sqrt{A} + H_5$

$HP_4 = H_{11} A^3 + H_{12}/A^2 + H_{13}$

$HP_5 = H_{16}$

$HP_6 = H_7 A + H_8$

$HP_7 = H_{17}/A^3 + H_{18}$

$HP_8 = H_9/A^3 + H_{10}$

The coefficients H1 through H18 are taken from the following table.

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

HEATING DELTA LOAD COEFFICIENTS—Continued

Coefficient label	Insulation position		
	Exterior	Integral	Interior
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 5.5-3 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-08
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	−0.7471844E-13
HXUO3	0.197090E-06	0.191026E-06	0.987587E-07	0.195776E-06
HGI	−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	−0.202019E-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
HC6	−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

A.2 Determining Heating and Cooling Criteria Using Equations in Section A.1

To determine the wall thermal criteria for a building design, the following inputs to the equations in Section A.1 shall be used.

Note: The example microcomputer program in Appendix C contains routines that calculate the wall heating criteria (WC_h) and cooling criteria (WC_c) for a climate location using the requirements specified below.

(1) Internal Gain (G). The sum of the lighting power density (L_p) and the equipment power density (E_p), or 2.5 W/ft^2, whichever is smaller, shall be used. In determining L_p, the value of R_c shall be set equal to 0.0 in Equations 5.5–4 and 5.5–8.

(2) 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.

(3) 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 (a) above, the WWR_c for cooling by interpolation of the results of (1) and (2) below, shall be determined using Equation 5.5–10:

$WWR_c = WWR_{g0} - (G/2.5)*(WWR_{g0} - WWR_{g25})$

Equation 5.5–10

(1) For G = 0.0:

If CDD50*VSEW < 8,000,000, then Equation 5.5–11 shall be used.

$WWR_0 = 0.48 - (CDD50*VSEW*1.625*10^{-8})$

Equation 5.5–11

If CDD50*VSEW ≥ 8,000,000, then Equation 5.5–12 shall be used:

$WWR_0 = 0.34$

Equation 5.5–12

(2) For G = 2.5:

If CDD50*VSEW < 8,000,000, then Equation 5.5–13 shall be used:

$WWR_{g25} = 0.28 - (CDD50*VSEW*5.0*10^{-9})$

Equation 5.5–13

If CDD50*VSEW ≥ 8,000,000, then Equation 5.5–14 shall be used:

$WWR_{g25} = 0.24$

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:

$WRR_h = 0.4 - (HDD65*2.5*10^{-5})$

Equation 5.5–14

If HDD65 ≥ 4000, then Equation 5.5–16 shall be used:

$WRR_h = 0.3$

Equation 5.5–16

(4) Opaque Wall Area Factor (FO). The value of FO shall be determined from Equation 5.5–17.

$FO = FC*(1 - WWR)$

Equation 5.5–17

(5) Shading Coefficient (SC_x). The value of SC_x shall be determined from (a) or (b) below.

(a) If the heating degree-days base 65F° for the building location is less than or equal to 3000, either Equation 5.5–18 or Equation 5.5–19 shall be used:

If CDD50*VSEW < 4,000,000, then Equation 5.5–18 shall be used:

$SC_x = 0.85 - (CDD50*VSEW*8.75*10^{-8})$

Equation 5.5–18

If CDD50*VSEW ≥ 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 °F for the building location is > 3000, either Equation 5.5–20 or Equation 5.5–21 shall be used:

If CDD50*VSEW < 4,000,000, then Equation 5.5–20 shall be used:

$SC_x = 0.85 - (CDD50*VSEW*1.25*10^{-7}$

Equation 5.5–20

If CDD50*VSEW < 4,000,000, then Equation 5.5–21 shall be used:

$SC_x = 0.35$

Equation 5.5–21

(6) External Shading Projection ($S_{e\,h}$). The value of $S_{e\,h}$ shall be set equal to 0.0.

(7) Opaque Wall U-value (U). The value of U shall be determined from either Equation 5.5–22 or Equation 5.5–23.

If HDD65 < 196, then Equation 8.B–21 shall be used:

$U = 1.0$

Equation 5.5–22

If HDD65≥196, then Equation 5.5–23 shall be used:

$$U = 42.787 * HDD65^{(-0.712241)}$$

Equation 5.5–23

(8) Heat Capacity of Opaque Wall (HC). The value of HC shall be set equal to 1.0.

(9) For all other inputs to the equations in section A.1, the values for the building envelope design under consideration shall be used.

[FR Doc. 87–5476 Filed 5–5–87; 8:45 am]

BILLING CODE 6450–01–M

DEPARTMENT OF ENERGY

Office of Conservation and Renewable Energy

Energy Conservation Standards for New Commercial Buildings; Finding of No Significant Impact

AGENCY: Office of Conservation and Renewable Energy, DOE.

ACTION: Finding of No Significant Impact (FONSI) on Proposed Interim Energy Conservation Standards for New Commercial Buildings.

SUMMARY: Elsewhere in this separate part of the **Federal Register**, the U.S. Department of Energy (DOE) is proposing interim energy conservation standards for new commercial buildings as required by the Energy Conservation Standards for New Buildings Act of 1976, as amended, (Act) 42 U.S.C. Section 6801 *et seq.* Federal agencies would be required to design federal commercial buildings to satisfy the energy efficiency requirements of the proposed interim standards. The proposed interim standards would not regulate non-federal construction, although DOE would receommend the use of the proposed interim standards to the design professions and owners and operators of commercial buildings as guidelines for the design of energy conserving buildings.

It is the determination of DOE that the proposed interim standards are not a major federal action significantly affecting the quality of the human environment; therefore, an environmental impact statement (EIS) will not be prepared.

ADDRESS: DOE's Finding of No Significant Impact for the proposed interim energy conservation standards for new commercial buildings and the Environmental Assessment (EA) prepared for the proposed interim standards are being made available to the public. Anyone wishing to receive copies of either document should contact: Hearings and Dockets Branch, Office of Conservation and Renewable Energy, U.S. Department of Energy, Docket Number CAS–RM–79–112–B, 1000 Independence Avenue SW., Room 6B–025, Washington, DC 20585, (202) 586–9320.

FOR FURTHER INFORMATION CONTACT:

Jean J. Boulin, Building Systems Division, CE–131, U.S. Department of Energy, Room GF–253, 1000 Independence Avenue SW., Washignton, DC 20585, (202) 586–9187
Donald E. Henninger, Office of Environmental Compliance, EH–23, U.S. Department of Energy, Room 3G–092, 1000 Independence Avenue SW., Washington, DC 20585, (202) 586–4597
Martha S. Crosland, Esq., Office of General Counsel, GC–11, U.S. Department of Energy, Room 6A–113, 1000 Independence Avenue SW., Washington, DC 20585, (202) 586–6947

SUPPLEMENTARY INFORMATION: DOE performed an Environmental Assessment (EA) of the possible incremental environmental effects attributable to the application of interim energy conservation standards to the design of new federal commercial buildings. This EA was prepared pursuant to the implementing regulations of the Council on Environmental Quality (CEQ) (40 CFR Parts 1500–1808 and the National Environmental Policy Act of 1969, as amended, Pub. L. 91–190, 40 U.S.C. 4221 *et seq.).*

Subsequent to the preparation of the EA, the interim standards on which the EA was based were rewritten. DOE has analyzed the differences between the earlier interim standards on which the EA was based and those currently proposed to determine how, if at all, such changes would affect the potential environmental impacts analyzed in the EA. Based on this analysis, DOE concluded that the changes do not alter the assumptions upon which the analysis of potential impacts in the EA was conducted. The changes primarily involve format and, therefore, do not affect the potential environmental impacts of the proposed standards. The technological changes affect neither the relative levels of conservation mandated nor the makeup of required building materials. Therefore, the changes will not affect the EA's analysis of indoor air quality or the outdoor environment. Since the changes do not affect the basic assumptions of the EA, nor its analysis of potential impacts, the impact assessment remains valid for the proposed interim standards and the conclusions of the EA remain unchanged.

The EA concludes that the effect of the proposed interim standards on a building's habitability as well as on the outdoor environment, the economy and federal institutions, will be very small. Background discussions followed by specific findings are summarized below.

Approach Used in the Analysis

The analysis supporting this finding was conducted by first reviewing the standards now in use by federal agencies, referred to as the baseline, and then comparing them to the proposed interim standards through computer simulation. The EA calculates the differences likely to occur in the new Federal commercial building construction sector. Since the proposed rule will only be available for use as a guideline to the private sector, it was neither necessary nor appropriate for DOE to assess or project the impacts of the proposed interim standards on the nation's new private sector buildings.

In developing the proposed interim energy conservation standards for new commercial buildings, DOE considered several different levels of stringency for elements of the standards. For example, greater and lesser levels of stringency were considered for the building envelope, equipment subsystems and lighting. The proposed standards reflect the maximum feasible stringency. Development of a more stringent standard therefore was not considered reasonable. The development of a significantly less stringent standard was not considered because it was inconsistent with the statutory mandate which stipulates that DOE promulgate a standard that requires the maximum practicable energy savings.

The no-action alternative, defined as a continuation of current practices (or as the adoption of existing American Society of Heating Refrigeration and Air Conditioning Engineers Standard 90A–1980), represents a less stringent alternative than the proposed standard. Because variations in stringencies from the standards proposed were not considered practical or reasonable, the only alternative to the proposed standard that is analyzed in the EA is that of no action.

To analyze the impacts of the proposed interim standards, commercial type buildings were separated into 10 categories on the basis of major functional and design differences. To evaluate the effects that the proposed interim standards would have on energy use, capital costs, operations and maintenance (O&M) costs, and the environment, plans for existing buildings from each of the 10 categories of

commerical buildings were obtained. A case study building was selected for each category. Each test building was "redesigned" on paper to meet ASHRAE 90A–80 requirements in five different climates, then upgraded again to meet the proposed interim standards. Each of the 10 buildings used in the design study and the resultant energy and cost savings analysis are described in a series of reports entitled *Recommendations for Energy Conservation Standards and Guidelines for New Commercial Buildings, Volumes I through IV*, October 1983 (DOE/NEB–0051—DOE/NEB–0051/9). This analysis uses the simulated characteristics and performance of the ten case study buildings to estimate the potential incremental environmental changes attributable to the proposed interim standards.

This analysis of incremental environmental consequences emphasizes the possible alterations to building habitability (indoor air quality, health and safety) from the proposed interim standards for two reasons. First, the impacts expected to occur in socio-economic spheres or in the outdoor environment are very slight because of the similarity of the proposed interim standards to the existing standards, the proposed interim standards' intrinsic design flexibility, and their emphasis on improved interrelationship of building components. Second, previous analysis of building standards for energy conservation have not incorporated extensive indoor environmental analyses, although this is an area of growing scientific concern.

General Findings

The overall finding of the EA is that the effect of the proposed interim building energy conservation standards on building habitability, as well as on the outdoor environment, the economy and federal institutions, will be very small. General findings are summarized below:

A. Habitability

Changes in various indoor air pollutant concentrations and concommitant occupant health and safety effects that can be attributed to design changes called for by the proposed interim standards will be minimal.

B. Indoor Air Quality

Various pollutants are released within commercial buildings continuously or intermittently. An indoor air quality computation model that uses specific pollution emission values (release rates) for selected materials was used to calculate pollutant concentration levels in the 10 case study buildings, based on their design characteristics for the base case and the proposed interim standards. Incremental pollutant concentrations were calculated for radon, organics, particulates, carbon monoxide (CO) and carbon dioxide (CO_2). Based on these calculations the incremental pollutant concentrations will be minimal.

1. Radon

Calculated values for indoor air concentrations of radon indicate the changes in building insulation materials, heating, ventilation, and air conditioning (HVAC), lighting and service water designs do not increase the level of radon concentration for the redesigned commercial buildings over the base buildings.

2. Organic Compounds (including Formaldehyde)

The computed concentrations of organics depend on insulation materials chosen for the redesigned buildings. In the 10 test buildings, there was a tendency to replace insulating materials that emit formaldehyde with materials that emit other organic compounds (primarily because of cost and insulating performance criteria). In most of the test cases, therefore, levels of formaldehyde present in buildings designed to the proposed interim standards are predicted to decline in comparison to those constructed according to current standards. Correspondingly, higher organic concentrations may occur temporarily (immediately upon completion of construction) in the redesigned buildings. Concentrations of both formaldehyde and other organic compounds can be very age dependent. The calculated concentrations are based on emission rates for new insulation materials. Aging will considerably reduce the actual long-term average concentration expected to occur in commercial buildings designed under either the existing or the proposed interim standards.

3. Combustion Products

The estimated concentration of total suspended particulates (TSP) may increase slightly between the base case and the proposed interim standards case study buildings because HVAC modifications in the latter tend to reduce the rate that air is passed through filters. (The volume of ventilation air remains constant, however.) The incremental increase in TSP levels is small even under worst case assumptions. CO and CO_2 concentrations were estimated to remain unchanged by substituting the proposed interim standards for the base case.

C. Effects on Health and Safety

In most of the test building simulations, estimated pollutant concentrations did not change as a result of the proposed interim standards. Where small increases in pollutant concentrations did occur, the health effect of these small changes is expected to be negligible. Although our current knowledge about health effects associated with common indoor air pollutants is limited, the small changes that appear possible with the use of the proposed interim standards are unlikely to increase the risk of adverse health effects.

The proposed interim standards do not result in new or radical design approaches but rather result in fine tuning existing design approaches to reduce whole building energy consumption. Thus, the proposed interim standards are not in conflict with relevant health and safety standards. For example, the ASHRAE standard for ventilation (ASHRAE 62–1981), which sets required amounts of outside air for acceptable indoor air quality, was applied to both the base case buildings and the buildings designed under the proposed interim standards. All other existing standards for building occupants' health and safety were also applied in both cases. Changes made to lighting, heating, ventilation, air conditioning, service hot water and envelope design are expected to have very small incremental impact on human health and safety.

D. Effects on Outdoor Environment

Improvements in the thermal resistance of a building's envelope will often require additional use of insulation and glass. More energy efficient buildings would reduce the oil, natural gas, or electricity requirements for lighting, heating, and cooling. Any reduction in energy use will decrease the volume of pollutants that are released into the environment as the result of developing and transporting the energy used to heat/cool and light the building.

Any increase in the production of insulation and glass required to comply with the interim standards is expected to be minimal and have insignificant environmental consequences. Ambient land, air, and water quality standards or industry's ability to comply with them should not be substantially affected since any additional emissions would be an extremely small increment to current

emission rates, especially at the local level.

E. Economic Effects

The total net benefits (reduction in cost of ownership and operation) of fully implementing the proposed interim standards for the federal sector are $165.6 million (1982 dollars). These energy expenditure savings represent about 3.6 percent of the expected cost of owning and operating the buildings constructed under the proposed interim standards during the 1981–2000 period. The reduction in energy expenditures alone is $141.9 million (17.9 reduction) and is composed of an electricity cost reduction of 140.8 million and a natural gas cost reduction of $1.3 million. O&M costs would decline by $20.3 million (2.0 percent) and capital expenses would decline by $3.4 million (0.1 percent). This decline in capital costs would result primarily from downsizing of heating and air conditioning equipment when the energy efficiency of the building is increased.

The indirect changes that occur as a result of imposing the proposed interim standards on federal building construction would be modest. Total output for all industries would be reduced by about $50 million, almost the same magnitude of change in constant (1982) dollars as the net benefits. This decline in output, however, would be from capital-intensive (primarily utilities) to more labor-intensive industries, so that employment actually would increase by about 1,500 man-years of employment over the 20-year period, or an average of about 75 man-years of employment per year.

F. Effects on Institutions

The proposed interim standards are not radically different from ASHRAE Standard 90A–1980, which is already being used by the Federal government and recommended to private sector designers by ASHRAE. Federal agencies most likely will not experience any disruption to the procedures, calculations, and design practices that they already use when designing new commercial buildings.

Determination

Based upon the findings of this EA, DOE has determined that the proposed interim standards are not a major federal action significantly affecting the quality of the human environment within the meaning of NEPA. Therefore, an environmental impact statement is not required.

Issued in Washington, DC, November 3, 1986.

Mary L. Walker,

Assistant Secretary, Environment, Safety and Health.

[FR Doc. 87–9580 Filed 5–5–87; 8:45 am]

BILLING CODE 6450–01–M

Federal Register

Wednesday
May 6, 1987

Part IV

Federal Communications Commission

47 CFR Parts 36, 65, 67, and 69

Common Carrier Services; Allocation of Costs Between the State and Interstate Jurisdictions; Rule and Access Charges; Jurisdictional Separations Procedures, Proposed Rule

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Parts 36, 65 and 67

[CC Docket Nos. 78-72, 80-286 and 86-297; FCC 87-134]

Common Carrier Services; Allocation of Costs Between the State and Interstate Jurisdictions.

AGENCY: Federal Communications Commission.

ACTION: Final rule.

SUMMARY: This action changes the allocation methods for Central Office Equipment and Revenue Accounting Expenses and conforms the Separations Manual to the revised Uniform System of Accounts (Part 32). This action eliminates Part 67 of the Commission's rules and replaces it with a new Part 36.

EFFECTIVE DATE: January 1, 1988.

ADDRESS: Federal Communications Commissions, Washington, DC 20554.

FOR FURTHER INFORMATION CONTACT: Michael Wilson or Cindy Schonhaut, Accounting and Audits Division, Common Carrier Bureau, (202) 632-7500.

SUPPLEMENTARY INFORMATION: This is a summary of the Commission's Report and Order, CC Docket Nos. 78-72, 80-286 and 86-297, adopted April 16, 1987, released May 1, 1987. The full text of Commission decisions are available for inspection and copying during normal business hours in the FCC Dockets Branch (Room 230), 1919 M Street NW., Washington, DC. The complete text of this decision may also be purchased from the Commission's copy contractors, International Transcription Service, (202) 857-3800, 2100 M Street NW., Suite 140, Washington, DC 20037.

Summary of Report and Order

A. Central Office Equipment

1. The Commission found that the Joint Board's recommendations concerning the allocation of Central Office Equipment (COE) were sound and therefore should be adopted.[1] The Commission adopted three major changes in allocation procedures for COE. First, the Commission adopted the Joint Board's recommendations that Category 6, Local Dial Switching Equipment, no longer be segregated into nontraffic sensitive (NTS) and traffic sensitive (TS) portions because this distinction is no longer reasonable given current technology. The Commission adopted the Joint Board's recommendation that all Category 6 investment be separated on the basis of study area dial equipment minutes (DEM) and that this new allocation procedure be phased-in over a five year period. The Commission adopted the recommendation that for local exchange carriers (LECs) with fewer than 50,000 access lines, the DEM allocator be weighted according to a simplified weighting methodology.

Second, the Commission adopted the recommendation that the LECs' Category 8.23, All Other Interexchange Circuit Equipment, be allocated on the basis of conversation-minutes (CM), a nondistance sensitive allocator, because 60 to 95 percent of these costs are not sensitive to distance. Category 8.23 is currently allocated based on conversation-minute-miles, a distance sensitive factor. The Commission stated that for LECs, certain changes should be made in the subcategorization of Category 8.23 costs and that this new allocation procedure should be implemented on a flash-cut basis. For Interexchange Carriers (ICs), however, the Commission adopted a freeze of the 1985 allocation factors for Category 8.23. Third, the Commission adopted the recommendation that the current eight COE categories be consolidated into four categories because some of the current categories are no longer functionally distinct. This approach will retain the current Categories 1 and 8; will combine Categories 2 and 3 into a new category, Tandem Switching Equipment; and will combine Categories 4, 5, 6 and 7 into a new category, Local Switching Equipment. The Commission adopted the recommendations that further comment be sought on certain remaining issues regarding an appropriate allocator for Local Switching Equipment and the appropriate categorization of Circuit Equipment.

B. Revenue Accounting Expenses

2. The Commission concluded that the Federal-State Joint Board's recommendations for the allocation of revenue accounting expense will provide an appropriate measure of the costs incurred in performing the billing and collecting function for each of the jurisdictions.[2] The Commission adopted the recommendation that revenue accounting expense be divided into three subcategories: (1) Message Processing Expense; (2) Other Billing and Collecting Expense; and (3) Carrier Access Charge Billing and Collecting Expense. The Message Processing Expense subcategory will be divided into Toll and Local based on the relative number of toll and local messages. Those expenses apportioned to Toll will be allocated between the jurisdictions based on the relative number of state and interstate toll messages. This is the same separations procedure currently used for the uncombined categories of Local Message Processing Expense and Toll Message Processing Expense. The Other Billing and Collecting Expense subcategory will be allocated on the basis of the proportion of users billed for interstate services adjusted to reflect any reduction in the number of interstate users billed by the LECs as AT&T discontinues subscribing to the billing and collecting services offered by the LECs. The Commission's approach specifies that the allocation to the interstate jurisdiction by the LECs for the Other Billing and Collecting subcategory be limited to a maximum of 33 percent and a minimum of 5 percent. For the Carrier Access Charge Billing and Collecting Expense, the Joint Board recommended retention of the current procedures which assign all such expense to the interstate jurisdiction if there are no state access charges assessed; if state access charges, other than subscriber line access charges, are assessed, one-half of such expense will be allocated to the interstate jurisdiction and one-half to the state jurisdiction. The Joint Board concluded that this method for the allocation of revenue accounting expenses will provide some simplification because it will reduce the number of subcategories from five to three and will eliminate some of the further subdivisions in the current procedures. Additionally, it will eliminate the need for special studies because the allocation factors are readily obtainable by the carriers.

C. New Separations Manual

3. The Commission found that the Joint Board's recommended new separations procedures appropriately meet the Commission's goals of conforming the separations procedures to the revised Uniform System of Accounts, simplifying the separations process, minimizing the revenue requirement impact and improving the practical application of the separations procedures.[3] Initially, the Joint Board

[1] Amendment of Part 67 of the Commission's Rules and Establishment of a Joint Board, CC Docket No. 80-286, 87J-3, released April 8, 1987.

[2] MTS and WATS Market Structure, Amendment of Part 67 of the Commission's Rules and Establishment of a Joint Board, CC Docket Nos. 78-72 and 80-286, 87J-2, released April 9, 1987.

[3] Amendment of Part 67 of the Commission's Rules and Establishment of a Joint Board, CC Docket No. 86-297, 87J-4, April 8, 1987.

proposed two manuals. Under this proposal, large Class A carriers would use a Class A Manual, while smaller Class B carriers would use a Class B Manual. The Joint Board concluded, and the Commission agreed, however, that all carriers should be required to use a modified version of the Class B Manual. The Commission found that this approach will provide separations simplification with no apparent change in the accuracy of the allocation of costs and will reduce some of the carriers' administrative costs which in turn reduces the overall revenue requirements. The Joint Board further recommended that the revised separations procedures be codified in the Commission's rules as a new Part 36 to avoid confusion with the current Part 67.

Ordering Clauses

4. Accordingly, *it Is Ordered,* That the recommendations of the Federal-State Joint Board, *Are Adopted. It Is Further Ordered,* that the amendments to Part 67 of the Commission's rules set forth as a new Part 36 of this *Report and Order are adopted* effective January 1, 1988.[4]

List of Subjects in 47 CFR Parts 36 and 65

Communications common carriers, Telephone, Uniform System of Accounts, Jurisdictional separations procedures.

William J. Tricarico,

Secretary.

Title 47 of the CFR is amended as follows:

1. Part 36 is added to read as follows:

PART 36—JURISDICTIONAL SEPARATIONS PROCEDURES; STANDARD PROCEDURES FOR SEPARATING TELECOMMUNICATIONS PROPERTY COSTS, REVENUES, EXPENSES, TAXES AND RESERVES FOR TELECOMMUNICATIONS COMPANIES [1]

Subpart A—General

Sec.

[4] These actions are taken pursuant to sections 1, 4(i) and (j), 205, 221(c), 403 and 410 of the Communications Act, as amended, 47 U.S.C. 151, 154(i) and (j), 205, 221(c), 403, and 410.

[1] The Commission has determined that the same jurisdictional separations used in the contiguous states are to be used for Alaska, Hawaii, Puerto Rico and the Virgin Islands. *Integration of Rates and Services,* Docket No. 21283, 87 FCC 2nd 18 (1981); *Integration of Rates and Services,* Docket No. 21264, 72 FCC 2nd 699 (1979).

Subpart B—Telecommunications Property

Subpart C—Operating Revenues and Certain Income Accounts

Subpart D—Operating Expenses and Taxes

Authority: 47 U.S.C. Secs. 151, 154 (i) and (j), 205, 221(c), 403 and 410.

Subpart A—General

§ 36.1 General.

(a) This part contains an outline of separations procedures for telecommunications companies on the station-to-station basis. These procedures are applicable either to property costs, revenues, expenses, taxes, and reserves as recorded on the books of the company or to estimated amounts.

(1) Where a value basis is used instead of book costs, the "costs" referred to are the "values" of the property derived from the valuation.

(b) The separations procedures set forth in this part are designed primarily for the allocation of property costs, revenues, expenses, taxes and reserves between state and interstate jurisdictions. For separations, where required, of the state portion between exchange and toll or for separations of individual exchanges or special services, further analyses and studies may be required to adapt the procedures to such additionl separations.

(c) The fundamental basis on which separations are made is the use of telecommunications plant in each of the operations. The first step is the assignment of the cost of the plant to categories. The basis for making this assignment is the identification of the plant assignable to each category and the determination of the cost of the plant so identified. The second step is the apportionment of the cost of the plant in each category among the operations by direct assignment where possible, and all remaining costs are assigned by the application of appropriate use factors.

(d) In assigning book costs to categories, the costs used for certain plant classes are average unit costs which equate to all book costs of a particular account or subaccount; for other plant classes, the costs used are those which either directly approximate book cost levels or which are equated to match total book costs at a given location.

(e) The procedures outlined herein reflect "short-cuts" where practicable and where their application produces substantially the same separations results as would be obtained by the use of more detailed procedures, and they assume the use of records generally maintained by Telecommunications Companies.

(f) The classification to accounts of telecommunications property, revenues, expenses, etc., set forth in this manual is that prescribed by the Federal Communications Commission's Uniform System of Accounts for Telecommunications Companies.

(g) In the assignment of property costs to categories and in the apportionment of such costs among the operations, each amount so assigned and apportioned is identified as to the account classification in which the property is included. Thus, the separated results are identified by property accounts and apportionment bases are provided for those expenses which are separated on the basis of the apportionment of property costs. Similarly, amounts of revenues and expenses assigned each of the operations are identified as to account classification.

(h) The separations procedures described in this part are not to be interpreted as indicating what property, revenues, expenses and taxes, or what items carried in the income, reserve and retained earnings accounts, should or should not be considered in any investigation or rate proceeding.

§ 36.2 Fundamental principles underlying procedures.

(a) The following general principles underlie the procedures outlined in this part:

(1) Separations are intended to apportion costs among categories or jurisdictions by actual use or by direct assignment.

(2) Separations are made on the "actual use" basis, which gives consideration to relative occupancy and relative time measurements.

(3) In the development of "actual use" measurements, measurements of use are (i) determined for telecommunications plant or for work performed by operating forces on a unit basis (e.g., conversation-minute-mile per message, weighted standard work seconds per call) in studies of traffic handled or

work performed during a representative period for all traffic and (ii) applied to overall traffic volumes, i.e., 24-hour rather than busy-hour volumes.

(b) Underlying the procedures included in this manual for the separation of plant costs is an over-all concept which may be described as follows:

(1) Telecommunications plant, in general, is segregable into two broad classifications, namely, (i) interexchange plant, which is plant used primarily to furnish toll services, and (ii) exchange plant, which is plant used primarily to furnish local services.

(2) Within the interexchange classification, there are three broad types of plant, i.e., operator systems, switching plant, and trunk transmission equipment. Within the exchange classification there are four board types of plant, i.e., operator systems, switching plant, truck equipment and subscriber plant. Subscriber plant comprises lines to the subscriber.

(3) In general, the basis for apportioning telecommunications plant used jointly for state and interstate operations are:

(i) Operator work time expressed in weighted standard work seconds is the basis for measuring the use of operator systems.

(ii) Holding-time-minutes is the basis for measuring the use of toll switching plant.

(iii) Conversation-minute-miles or conversation-minutes is the basis for measuring the use of interexchange circuit plant and holding-time minutes is the basis for measuring the use of exchange trunk plant. While the use of holding-time-minute-miles is the basic fundamental allocation factor for interexchange circuit plant and exchange trunk plant, the use of conversation-minute-miles or conversation-minutes for the allocation of interexchange circuit plant and holding-time minutes for the allocation of exchange trunk plant are considered practical approximations for separations between state and interstate operations when related to the broad types of plant classifications used herein.

(iv) A subscriber plant factor is the basis of apportioning the cost of message telecommunications subscriber plant and local switching plant between State and interstate operations. The subscriber plant factor is developed and used according to the procedures set forth in § 36.154(c) through § 36.154(f).

(c) Property rented to affiliates, if not substantial in amount, is included as used property of the owning company with the associated revenues and expenses treated consistently: Also such property rented from affiliates is not included with the used property of the company making the separations; the rent paid is included in its expenses. If substantial in amount, the following treatment is applied:

(1) In the case of property rented to affiliates, the property and related expenses and rent revenues are excluded from the telephone operations of the owning company, and

(2) In the case of property rented from affiliates, the property and related expenses are included with, and the rent expenses are excluded from, the telephone operations of the company making the separation.

(d) Property rented to or from non-affiliates is usually to be included as used property of the owning company with the associated revenues and expenses treated consistently. In the event the amount is substantial, the property involved and the revenues and expenses associated therewith may be excluded from or included in the telecommunications operations of the company. When required, the cost of property rented to or from non-affiliates is determined using procedures that are consistent with the procedures for the allocation of costs among the operations.

(e) Costs associated with services or plant billed to another company which have once been separated under procedures consistent with general principles set forth in this part, and are thus identifiable as entirely interstate or State in nature, shall be directly assigned to the appropriate operation and jurisdiction.

Subpart B—Telecommunications Property

General

§ 36.101 Section arrangement.

(a) This subpart is arranged in sections as follows:

§ 36.102 General.

(a) This section contains an outline of the procedures used in the assignment of Telecommunications Plant in Service—Account 2001 to categories and the apportionment of the cost assigned to each category among the operations.

(b) The treatment of rental plant is outlined in § 36.2(c) through § 36.2(e). If the amount of such plant is substantial, the cost may be determined by using the general procedures set forth for the assignment of the various kinds of property to categories.

(c) The amount of depreciation deductible from the book cost or "value" is apportioned among the operations in proportion to the separation of the cost of the related plant accounts.

General Support Facilities

§ 36.111 General.

(a) The costs of the general support facilities are contained in Account 2110, Land and Support Assets. This account contains land, buildings, motor vehicles, aircraft, special purpose vehicles, garage work equipment, other work equipment, furniture, office equipment and general purpose computers.

§ 36.112 Apportionment procedure.

(a) The costs of the general support facilities of Class A Companies (which are defined in Part 32 of the Commission's Rules) are apportioned among the operations on the basis of the separation of the costs of the combined Big Three Expenses which include the following accounts:

Plant Specific Expense

6210 Central Office Switching Expenses
6220 Operators Systems Expenses
6230 Central Office Transmission Expenses
6310 Information Origination/Termination Expenses
6410 Cable and Wire Facilities Expense

Plant Non-Specific Expense

6530 Network Operations Expenses

Customer Operations Expenses

6610 Marketing
6620 Services

(b) The costs of the general support facilities for Class B Companies (which are defined by Part 32 of the Commission's Rules) are apportioned among the operations on the basis of the separation of the costs of Central Office Equipment, Information Origination/Termination Equipment, and Cable and Wire Facilities, combined.

Central Office Equipment

§ 36.121 General.

(a) The costs of central office equipment are carried in the following accounts:

Central Office Switching	Account 2210
Analog Electronic Switching.	Account 2211
Digital Electronic Switching.	Account 2212
Electro-Mechanical Switching.	Account 2215
Operator Systems	Account 2220
Central Office—Transmission.	Account 2230
Radio Systems	Account 2231
Circuit Equipment	Account 2232

(b) Records of the cost of central office equipment are usually maintained for each study area separately by accounts. However, each account frequently includes equipment having more than one use. Also, equipment in one account frequently is associated closely with equipment in the same building in another account. Therefore, the separations procedures for central office equipment have been designed to deal with categories of plant rather than with equipment in an account.

(c) In the separation of the cost of central office equipment among the operations, the first step is the assignment of the equipment in each study area to categories. The basic method of making this assignment is the identification of the equipment assignable to each category, and the determination of the cost of the identified equipment by analysis of accounting, engineering and other records.

(1) The cost of common equipment not assigned to a specific category, e.g., common power equipment, including emergency power equipment, aisle lighting and framework, including distributing frames, is distributed among the categories in proportion to the cost of equipment, (excluding power equipment not dependent upon common power equipment) directly assigned to categories.

(i) The cost of power equipment used by one category is assigned directly to that category, e.g., 130 volt power supply provided for circuit equipment. The cost of emergency power equipment protecting only power equipment used by one category is also assigned directly to that category.

(ii) Where appropriate, a weighting factor is applied to the cost of circuit equipment in distributing the power plant costs not directly assigned, in order to reflect the generally greater power use per dollar of cost of this equipment.

(d) The second step is the apportionment of the cost of the equipment in each category among the operations through the application of appropriate use factors or by direct assignment.

§ 36.122 Categories and apportionment procedures.

(a) The following categories of central office equipment and apportionment procedures therefore are set forth in §§ 36.123 through 36.126.

Operator Systems Equipment.	Category 1.
Tandem Switching Equipment.	Category 2.
Local Switching Equipment.	Category 3.
Circuit Equipment	Category 4.

§ 36.123 Operator systems equipment—Category 1.

(a) Operator systems equipment is contained in Account 2220. It includes all types of manual telephone switchboards except tandem switchboards and those used solely for recording of calling telephone numbers in connection with customer dialed charge traffic. It includes all face equipment, terminating relay circuits of trunk and toll line circuits, cord circuits, cable turning sections, subscriber line equipment, associated toll connecting trunk equipment, number checking facilities, ticket distributing systems, calculagraphs, chief operator and other desks, operator chairs, and other such equipment.

(1) Operator systems equipment is generally classified according to operating arrangements of which the following are typical:

(i) Separate toll boards
(ii) Separate local manual boards
(iii) Combined local manual and toll boards
(iv) Combined toll and DSA boards
(v) Separate DSA and DSB boards
(vi) Service observing boards
(vii) Auxiliary service boards
(viii) Traffic service positions

(2) If switchboards as set forth in § 36.123(a) are of the key pulsing type, the cost of the key pulsing senders, link and trunk finder equipment is included with the switchboards.

(3) DSB boards include the associated DSB dial equipment, such as link and sender equipment.

(4) Traffic service position systems include the common control and trunk equipment in addition to the associated groups of positions wherever located.

(b) The cost of the following operator systems equipment is apportioned among the operations on the basis of the relative number of weighted standard work seconds handled at the switchboards under consideration.

(1) The following types of switchboards at toll centers are generally apportioned individually:

(i) *Separate toll boards.* These usually include outward, through and inward positions in separate lines and associated inward toll switchboard positions in line.

(ii) Switchboards handling both local and toll, either combined or having segregated local and toll positions in the same line.

(iii) Switchboards handling both toll and DSA, either combined or having segregated toll and DSA positions in the same line.

(iv) Traffic service positions, including separately located groups of these positions when associated with a common basic control unit.

(2) The following types of switchboards at toll centers are apportioned individually, or by groups of comparable types of boards for each exchange:

(i) *Separate local manual boards.* This includes the local positions of manual boards where inward toll positions are in the same line.

(ii) Separate DSA boards.

(iii) Separate DSB boards.

(3) Tributary boards may be treated individually if warranted or they may be treated on a group basis.

(c) Auxiliary service boards generally handle rate and route, information, and intercept service at individual or joint positions. The cost of these boards is apportioned as follows:

(1) The cost of separate directory assistance boards is apportioned among the operations on the basis of the relative number of weighted standard work seconds handled at the boards under consideration. Directory assistance weighted standard work seconds are apportioned among the operations on the basis of the classification of these weighted standard work seconds as follows:

(i) Directory assistance weighted standard work seconds first are classified between calls received over

toll directory assistance trunks from operators or customers and all other directory assistance calls.

(ii) The directory assistance weighted standard work seconds of each type further are classified separately among the operations on the basis of an analysis of a representative sample of directory assistance calls of each type with reference to the locations of the calling and called stations for each call.

(2) The cost of separate intercept boards and automated intercept systems in the study area is appportioned among the operations on the basis of the relative number of subscriber line minutes of use.

(3) The cost of separate rate and route boards is generally included with the cost of the toll boards served and is apportioned with those boards.

(4) Where more than one auxiliary service is handled at an auxiliary board, the cost of the board is apportioned among the auxiliary services on the basis of the relative number of weighted standard work seconds for each service. The cost of that part of the board allocated to each auxiliary service is apportioned among the operations in the same manner as for a separate auxiliary board.

(d) The cost of joint exchange and toll service observing boards is first apportioned between exchange and toll use on the basis of the relative number of exchange and toll service observing units at these boards. The cost of separate toll service observing boards and the toll portion of joint service observing boards is apportioned between state and interstate operations on the basis of the relative number of toll minutes of use associated with the toll messages originating in the offices observed.

(e) Traffic Service Position System (TSPS) investments are apportioned as follows:

(1) Operator position investments are apportioned on the basis of the relative weighted standard work seconds for the entire TSPS complex.

(2) Remote trunk arrangement (RTA) investments are apportioned on the basis of the relative processor real time (i.e., actual seconds) required to process TSPS traffic originating from the end offices served by each RTA.

(3) The remaining investments at the central control location, such as the stored program control and memory, is apportioned on the basis of the relative processor real time (i.e., actual seconds) for the entire TSPS complex.

§ 36.124 Tandem switching equipment—Category 2.

(a) Tandem switching equipment is contained in Accounts 2210, 2211, 2212 and 2215. It includes all switching equipment in a tandem central office, including any associated tandem switchboard positions and any intertoll switching equipment. Intertoll switching equipment includes switching equipment used for the interconnection of message toll telephone circuits with each other or with local or tandem telephone central office trucks, intertoll dial selector equipment, or intertoll trunk equipment in No. 5 type electronic offices. Equipment, including switchboards used for recording of calling telephone numbers and other billing information in connection with customer dialed charge traffic is included with Local Switching Equipment—Category 3.

(1) At toll center toll offices, intertoll switching equipment comprises equipment in the toll office used in the itnerconnection of: Toll center to toll center circuits; toll center to tributary circuits; tributary to tributary circuits; toll center to tandem circuits or in the interconnection of the aforementioned types of circuits with trunks to local offices in the toll center city, i.e., interconnection with toll switching trunks, operator trunks, information trunks, testing trunks, etc. Equipment associated with the local office end of such trunks is included with local switching equipment or switchboard categories as appropriate.

(2) At tributary offices, this category includes intertoll switching equipment similar to that at toll center toll offices if it is used in the interconnection of: Tributary to tributary circuits; tributary to subtributary circuits; subtributary to subtributary circuits; toll center to subtributary circuits; or if it is used jointly in the interconnection of any of the aforementioned types of circuits and in the interconnection of such toll circuits with trunk circuits for the handling of traffic terminating in the tributary office. Where comparable equipment has no joint use but is used only for the handling of traffic terminating in the tributary office, it is included in the local switching equipment category.

(3) At all switching entities, this category includes intertoll switching equipment similar to that at toll center toll offices if it is used in the interconnection of switched private line trunks or TWX switching plant trunks when these functions are in addition to the message telephone switching function. Switching entities wholly dedicated to switching of special services are assigned to Category 3—Local Switching Equipment.

(b) The costs of central office equipment items assigned this category are to be directly assigned when possible. When direct assignment is not possible the costs shall be apportioned among the operations on the basis of the relative number of study area minutes of use of this equipment.

§36.125 Local switching equipment—Category 3.

(a) Local switching equipment is included in accounts 2210, 2211, 2212 and 2215. It comprises all central office switching equipment not assigned other categories. Examples of local switching equipment are basic switching train, toll connecting trunk equipment, interlocal trunks, tandem trunks, terminating senders used for toll completion, toll completing train, call reverting equipment, weather and time of day service equipment, and switching equipment at electronic analog or digital remote line locations. Equipment used for the identification, recording and timing of customer dialed charge traffic, or switched private line traffic (e.g. transverters, recorders, call identity indexers, perforators, ticketers, detectors, mastertimes) switchboards used solely for recording of calling telephone numbers in connection with customer dialed charge traffic, or switched private line traffic (or both) is included in this local switching category. Equipment provided and used primarily for operator dialed toll or customer dialed charge traffic except such equipment included in Category 2 Tandem Switching Equipment is also included in this local switching category. This includes such items as directors translators, sender registers, out trunk selectors and facilites for toll intercepting and digit absorption. Special services switching equipment which primarily performs the switching function for special services (e.g. switching equipment, TWX concentrators and switchboards) is also included in this local switching category.

(1) Local office, as used in § 36.125, comprises one or more local switching entities of the same equipment type (e.g., step-by-step, No. 5 Crossbar) in an individual location. A local switching entity comprises that local central office equipment of the same type which has a common intermediate distributing frame, market group or other separately identifiable switching unit serving one or more prefixes (NNX codes).

(2) A host/remote local switching complex is composed of an electronic analog or digital host office and all of its

remote locations. A host/remote local switching complex is treated as one local office. The current jurisdictional definition of an exchange will apply.

(b) Beginning January 1, 1993, Category 3 investment for study areas with 50,000 or more access lines is apportioned on the basis of relative dial equipment minutes of use, (DEM) i.e., the minutes of holding time of the originating and terminating local switching equipment, as holding time is defined in the Glossary.

(c) During the 1988–1992 period, Category 3 investment for study areas with 50,000 or more access lines is apportioned by the application of an interstate allocation factor that is computed by adding the following two elements for the appropriate transition year (the A component times the composite allocator plus the B component times the DEM allocator). The A and B components are specified in § 36.125 (d) and (e). The composite allocator is computed by dividing the combined interstate investment included in former Central Office Equipment Categories 4, 5, 6 and 7 on December 31, 1987, by the combined total investment included in former Central Office Equipment Categories 4, 5, 6 and 7 on December 31, 1987. The DEM allocator is computed in the same manner as the interstate allocation factor described in Section 36.125 (b).

(d) The "A Component" for each of the five years is as follows:

Year	"A Component"
1988	.9
1989	.7
1990	.5
1991	.3
1992	.1

(e) The "B Component" for each of the five years is as follows:

Year	"B Component"
1988	.1
1989	.3
1990	.5
1991	.7
1992	.9

(f) For study areas with fewer than 50,000 access lines, Category 3 investment is apportioned by the application of an interestate allocation factor that is the lesser of either .85 or an amount that is computed by multiplying a weighting factor times either the dial equipment minutes of use (DEM) factor specified in § 36.125 (b) after January 1, 1993 or the DEM allocator used in the formula specified in § 36.125 (c) through (e) for the period from January 1, 1988 through December 31, 1992. The applicable weighting factor is as follows:

No. of access lines in service in study area	Weighting factor
0–10,000	3.0
10,001–20,000	2.5
20,001–50,000	2.0
50,001–or above	1.0

(g) For purposes of this section, an access line is a line that does not include WATS access lines, special access lines or private lines.

§ 36.126 Circuit equipment—Category 4.

(a) For the purpose of this section, the term "Circuit Equipment" encompasses the Radio Systems and Circuit Equipment contained in Accounts 2230 through 2232 respectively. It includes central office equipment, other than switching equipment and automatic message recording equipment, which is used to derive communications transmission channels or which is used for the amplification, modulation, regeneration, testing, balancing or control of signals transmitted over communications transmission channels. Examples of circuit equipment in general use include:

(1) Carrier telephone and telegraph system terminals.

(2) Telephone and telegraph repeaters, termination sets, impedance compensators, pulse link repeaters, echo suppressors and other intermediate transmission amplification and balancing equipment except that included in switchboards.

(3) Radio transmitters, receivers, repeaters and other radio central office equipment except message switching equipment associated with radio systems.

(4) Composite ringers, line signaling and switching pad circuits.

(5) Concentration equipment.

(6) Composite sets and repeating coils.

(7) Program transmission amplifiers, monitoring devices and volume indicators.

(8) Testboards, test desks, repair desks and patch bays, including those provided for test and control, and for telegraph and transmission testing.

(b) For apportionment among the operations, the cost of circuit equiment is assigned to the following subsidiary categories:

(1) *Exchange Circuit Equipment—Category 4.1.*

(i) Wideband Exchange Line Circuit Equipment—Category 4.11.

(ii) Exchange Trunk Circuit Equipment (Wideband and Non-Wideband)—Category 4.12.

(iii) Exchange Line Circuit Equipment Excluding Wideband—Category 4.13.

(2) *Interexchange Circuit Equipment—Category 4.2.*

(i) Interexchange Circuit Equipment Furnished to Anotheer Company for Interstate Use—Category 4.21.

(ii) Interexchange Circuit Equipment Used for Wideband Services including Satellite and Earth Station Equipment used for Wideband Service—Category 4.22.

(iii) All Other Interexchange Circuit Equipment—Category 4.23.

(3) *Host/Remote Message Circuit Equipment—Category 4.3.*

(4) In addition, for the purpose of identifying and separating property associated with special services, circuit equipment included in Categories 4.12 (other than wideband equipment) 4.13 and 4.23 is identified as either basic circuit equipment, i.e., equipment that performs functions necessary to provide and operate channels suitable for voice transmission (telephone grade channels), or special circuit equipment, i.e., equipment that is peculiar to special service circuits. Carrier telephone terminals and carrier telephone repeaters are examples of basic circuit equipment is general use, while audio program transmission amplifiers, bridges, monitoring devices and volume indicators, telegraph carrier terminals and telegraph repeaters are examples of special circuit equipment in general use.

Cost of exchange circuit equipment included in Categories 4.12 and 4.13 and the interexchange circuit equipment in Categories 4.21, 4.22 and 4.23 are segregated between basic circuit equipment and special circuit equipment only at those locations where amounts of interexchange and exchange special circuit equipment are significant. Where such segregation is not made, the total costs in these categories are classified as basic circuit equipment.

(c) Apportionment of Exchange Circuit Equipment Among the Operations:

(1) Wideband Exchange Line Circuit Equipment—Category 4.11—The cost of exchange circuit equipment in this category is determined separately for each wideband facility. The respective costs are allocated to the appropriate operation in the same manner as the related exchange line cable and wire facilities described in § 36.155.

(2) Exchange Trunk Circuit Equipment (Wideband and Non-Wideband)—Category 4.12—The cost of exchange circuit equipment associated with this category for the study area is allocated

to the appropriate operation in the same manner as the related exchange trunk cable and wire facilities as described in § 36.155.

(3) Exchange Line Circuit Equipment Excluding Wideband—Category 4.13—The cost of Circuit Equipment associated with exchange line plant excluding wideband for the study area is assigned to subcategories and is allocated to the appropriate operation in the same manner as the related exchange line cable and wire facilities for non-wideband service as described in § 36.154.

(d) Apportionment of Interexchange Circuit Equipment among the Operations: Procedures to be Used by Interexchange Carriers.

(1) Interexchange Circuit Equipment Furnished to Another Company for Interstate Use—Category 4.21—This category comprises that circuit equipment provided for the use of another company as an integral part of its interexchange circuit facilities used wholly for interstate services. This category includes such circuit equipment as telephone carrier, terminals telegraph carrier terminals, and microwave systems used wholly for interstate services. The total cost of the circuit equipment in this category for the study area is assigned to the interstate operation.

(2) Interexchange Circuit Equipment Used for Wideband Service—Category 4.22—This category includes the circuit equipment portion of interexchange channels used for wideband services. The cost of interexchange circuit equipment in this category is determined separately for each wideband channel and is segregated between message and private line services on the basis of the use of the channels provided. The respective costs are allocated to the appropriate operation in the same manner as the related interexchange cable and wire facilities as described in § 36.156.

(3) All Other Interexchange Circuit Equipment—Category 4.23—This category includes the cost of all interexchange circuit equipment not assigned to Categories 4.21 and 4.22. Interexchange carriers shall freeze the allocation factors for Category 4.23 investment at levels reached on December 31, 1985, derived by using the procedures in effect at that time. On January 1, 1988, and thereafter, that frozen allocation factor shall be applied to each interexchange carrier's Category 4.23 investment to derive the interstate allocation. On January 1, 1988, and thereafter, the amount of investment allocated to the interstate jurisdiction will vary but the relative proportion of the total investment that is allocated to the interstate jurisdiction will remain frozen at 1985 levels.

(e) Apportionment of Interexchange Circuit Equipment among the Operations: Procedures To Be Used by Exchange Carriers.

(1) Interexchange Circuit Equipment Furnished to Another Company for Interstate Use—Category 4.21—This category comprises that circuit equipment provided for the use of another company as an integral part of its interexchange circuit facilities used wholly for interstate services. This category includes such circuit equipment as telephone carrier terminals telegraph carrier terminals, and microwave systems used wholly for interstate services. The total cost of the circuit equipment in this category for the study area is assigned to the interstate operation.

(2) Interexchange Circuit Equipment Used for Wideband Service—Category 4.22—This category includes the circuit equipment portion of interexchange channels used for wideband services. The cost of interexchange circuit equipment in this category is determined separately for each wideband channel and is segregated between message and private line services on the basis of the use of the channels provided. The respective costs are allocated to the appropriate operation in the same manner as the related interexchange cable and wire facilities described in § 36.156.

(3) All Other Interexchange Circuit Equipment—Category 4.23—This category includes the cost of all interexchange circuit equipment not assigned to Categories 4.21 and 4.22. The cost of interexchange basic circuit equipment used for the following classes of circuits is included in this category: Jointly used message circuits, i.e., message switching plant circuits carrying messages from the state and interstate operations; circuits used exclusively for TWX service; circuits uses for interstate private line service; and circuits used for state private line services.

(i) An average interexchange circuit equipment cost per equivalent interexchange telephone termination for all circuits is determined and applied to the equivalent interexchange telephone termination counts of each of the following classes of circuits. The cost of interstate private line circuits is assigned directly to the interstate operation. The cost of state private line circuits is assigned directly to the state operation. The cost of message circuits is apportioned between the state and interstate operations on the basis of the relative number of study area conversation-minutes applicable to such facilities.

(ii) The cost on interexchange circuit equipment assigned TWX circuits is apportioned between state and interstate toll in accordance with § 36.126(e)(3)(i) and pursuant to the following procedures. The cost of circuit equipment associated with the TWX intertoll circuits used jointly for state and interstate operations is apportioned between the operations on the basis of the relative number of study area TWX connection-minutes applicable to such facilities. The cost of circuit equipment associated with the interexchange portion of the TWX remote access lines is apportioned between state and interstate operation on the basis of the relative number of study area TWX connection-minutes applicable to those facilities.

(iii) The cost of special circuit equipment is segregated among TWX service, telegraph grade private line services and other private line services based on an analysis of the use of the equipment and in accordance with § 36.126(b)(4). The cost of TWX special circuit equipment is apportioned on the same basis as that used for intertoll TWX circuits. The special circuit equipment cost assigned to telegraph grade and other private line services is directly assigned to the appropriate operation.

(f) Apportionment of Host/Remote Message Circuit Equipment Among the Operations.

(1) Host/Remote Message Circuit Equipment—Category 4.3. This category includes message host/remote location circuit equipment for which a message circuit switching function is performed at the host central office associated with cable and wire facilities as described in § 36.152(c).

(i) The category 4.3 cost of host/remote circuit equipment assigned to message services for the study area is apportioned among the exchange, intrastate toll, and interstate toll operations on the basis of the assignment of host/remote message cable and wire facilities as described in § 36.157.

Information Origination/Termination (IOT) Equipment

§ 36.141 General.

(a) Information Origination/Termination Equipment is maintained in Account 2310 and includes station apparatus, embedded customer premises wiring, large private branch exchanges, public telephone terminal

equipment, and other terminal equipment.

(b) The costs in Account 2310 shall be segregated between Other Information Origination/Termination Equipment—Category 1, and New Customer Premises Equipment—Category 2 by an analysis of accounting, engineering and other records.

§ 36.142 Categories and apportionment procedures.

(a) *Other Information Origination/Termination Equipment—Category 1.* This category includes the cost of other information origination/termination equipment not assigned to Category 2. The costs of other information origination/termination equipment are allocated pursuant to the factor that is used to allocate subcategory 1.3 Exchange Line C&WF. If amounts of coinless pay telephone equipment are substantial, the cost of such equipment, should be separately identified and allocated on the basis of relative toll minutes-of-use for interexchange carriers and minutes-of-use for exchange carriers.

(b) *Customer Premise Equipment—Category 2.* This category includes the cost of Customer Premises Equipment that was detariffed pursuant to the Second Computer Inquiry decision. It shall be assigned to the state operations.

Cable and Wire Facilities

§ 36.151 General.

(a) Cable and Wire Facilities, Account 2410, includes the following types of communications plant in service: Poles and antenna supporting structures, aerial cable, underground cable, buried cable, submarine cable, deep sea cable, intrabuilding network cable, aerial wire and conduit systems.

(b) For separations purposes, it is necessary to analyze the cable and wire facilities classified in subordinate records in order to determine their assignment to the categories listed in the following paragraphs.

(c) In the separation of the cost of cable and wire facilities among the operations, the first step is the assignment of the facilities to certain categories. The basic method of making this assignment is the identification of the facilities assignable to each category and the determination of the cost of the facilities so identified. Because of variations among companies in the character of the facilities and operating conditions, and in the accounting and engineering records maintained, the detailed methods followed, of necessity, will vary among the companies. The general principles to be followed, however, will be the same for all companies.

(d) The second step is the apportionment of the cost of the facilities in each category among the operations through the application of appropriate factors or by direct assignment.

§ 36.152 Categories of Cable and Wire Facilities (C&WF).

(a) C&WF are basically divided between exchange and interexchange. Exchange C&WF consists of the following categories:

(1) Exchange Line C&WF *Excluding Wideband*—Category 1—This category includes C&W facilities between local central offices and subscriber premises used for message telephone, TWX subscriber lines, private line, local channels, and for circuits between control terminals and radio stations providing very high frequency maritime service or urban or highway mobile service.

(2) *Wideband and* Exchange Trunk C&WF—Category 2—This category includes all wideband, including Exchange Line Wideband and C&WF between local central offices and Wideband facilities. It also includes C&WF between central offices or other switching points used by any common carrier for interlocal trunks wholly within an exchange or metropolitan service area, interlocal trunks with one or both terminals outside a metropolitan service area carrying some exchange traffic, toll connecting trunks, tandem trunks principally carrying exchange traffic, the exchange trunk portion of TWX and WATS access lines the exchange trunk portion of private line local channels, and the exchange trunk portion of circuits between control terminals and radio stations providing very high frequency maritime service or urban or highway mobile service.

(3) The procedures for apportioning the cost of exchange cable and wire facilites among the operations are set forth in §§ 36.154 and 36.155.

(b) Interexchange C&WF—Category 3—This category includes the C&WF used for message toll and toll private line services. It includes cable and wire facilities carrying intertoll circuits, tributary circuits, the interexchange channel portion of special service circuits, circuits between control terminals and radio stations used for overseas or coastal harbor service, interlocal trunks between offices in the different exchange or metropolitan service areas carrying only message toll traffic and certain tandem trunks which carry principally message toll traffic.

(1) The procedures for apportioning the cost of interexchange cable and wire facilities among the operations are set forth in § 36.156.

(c) Host/Remote Message C&WF—Category 4—This category includes the cost of message host/remote location C&WF for which a message circuit switching function is performed at the host central office. It applies to C&WF between host offices and all remote locations. The procedures for apportioning the cost of these facilities among the operations are set forth in § 36.157.

§ 36.153 Assignment of Cable and Wire Facilities (C&WF) to categories.

(a) Cable consists of: Aerial cable, underground cable, buried cable, submarine cable, deep sea cable and intrabuilding network cable. Where an entire cable or aerial wire is assignable to one category, its cost and quantity are, where practicable, directly assigned.

(1) *Cable.* (i) There are two basic methods for assigning the cost of cable to the various categories. Both of them are on the basis of conductor cross section. The methods are as follows:

(A) By section of cable, uniform as to makeup and relative use by categories. From an analysis of cable engineering and assignment records, determine in terms of equivalent gauge the number of pairs in use or reserved, for each category. The corresponding percentages of use, or reservation, are applied to the cost of the section of cable, i.e., sheath feet times unit cost per foot, to obtain the cost assignable to each category

(B) By using equivalent pair miles, i.e., pair miles expressed in terms of equivalent gauge. From an analysis of cable engineering and assignment records, determine the equivalent pair miles in use for each category by types of facility, e.g., quadded, paired. The equivalent pair miles are then divided by a cable fill factor to obtain the equivalent pair miles in plant. The total equivalent pair miles in plant assigned to each category in summarized by types of facility, e.g., quadded and paired, and priced at appropriate average unit costs per equivalent pair mile in plant. If desired, this study may be made in terms of circuit miles rather than physical pair miles, with average cost and fill data consistent with the basis of the facilities mileage count.

(ii) In the assignment of the cost of cable under the two basic methods described in § 36.153(a)(1)(i) consideration is given to the following:

(A) Method (A) described in § 36.153(a)(1)(i)(A) will probably be found more desirable where there is a relatively small amount of cable of variable make-up and use by categories. Conversely, method (B) described in § 36.153(a)(1)(i)(B) will probably be more desirable where there is a large amount of cable of variable make-up and use by categories. However, in some cases a combination of both methods may be desirable.

(B) It will be desirable in some cases to determine the amount assignable to a particular category by deducting from the total the sum of the amounts assigned to all other categories.

(C) For use in the assignment of poles to categories, the equivalent sheath miles of aerial cable assigned to each category are determined. For convenience, these quantities are determined in connection with the assignment of cable costs.

(D) Where an entire cable is assignable to one category, its costs and quantity are, where practicable, directly assigned.

(iii) For cables especially arranged for high-frequency transmission such as shielded, disc-insulated and coaxial, recognition is given to the additional costs which are charged to the high-frequency complement.

(2) *Cable Loading.* (i) Methods for assigning the cost of loading coils, cases, etc., to categories are comparable with those used in assigning the associated cable to categories. Loading associated with cable which is directly assigned to a given category is also so assigned. The remaining loading is assigned to categories in either of the following bases:

(A) By an analysis of the use made of the loading facilities where a loading coil case includes coils assignable to more than one category, e.g., in the case of a single gauge uniformly loaded section, the percentage used in the related cable assignment are applicable, or

(B) By pricing out each category by determining the pair feet loaded pairs assigned to each category and multiplying by the unit cost per pair foot of loading by type.

(3) *Other Cable Plant.* (i) In view of the small amounts involved, the cost of all protected terminals and gas pressure contactor terminals in the toll cable subaccounts is assigned to the appropriate Interexchange Cable & Wire Facilities categories. The cost of all other terminals in the exchange and toll cable subaccounts is assigned to Exchange Cable and Wire Facilities.

(b) *Aerial Wire.* (1) The cost of wire accounted for as exchange is assigned to the appropriate Exchange Cable & Wire Facilities categories. The cost of wire accounted for as toll, which is used for exchange, is also assigned to the appropriate Exchange Cable & Wire Facilities categories. The cost of the remaining wire accounted for as toll is assigned to the appropriate Interexchange Cable & Wire Facilities categories as described in § 36.156. For companies not maintaining exchange and toll subaccounts, it is necessary to review the plant records and identify wire plant by use. The cost of wire used for providing circuits directly assignable to a category is assigned to that category. The cost of wire used for providing circuit facilities jointly used for exchange and interchange lines is assigned to categories on the basis of the relative number of circuit miles involved.

(c) *Poles and Antenna Supporting Structures.* (1) In the assignment of these costs, anchors, guys, crossarms, antenna supporting structure, and right-of-way are included with the poles.

(2) Poles. (i) The cost of poles is assigned to categories based on the ratio of the cost of poles to the total cost of aerial wire and aerial cable.

(d) *Conduit Systems.* (1) The cost of conduit systems is assigned to categories on the basis of the assignment of the cost of underground cable.

§ 36.154 Exchange Line Cable and Wire Facilities (C&WF)—Category 1—Apportionment procedures.

(a) *Exchange Line C&WF—Category 1.* The first step in apportioning the cost of exchange line cable and wire facilities among the operations is the determination of an average cost per working loop. This average cost per working loop is determined by dividing the total cost of exchange line cable and wire Category 1 in the study area by the sum of the working loops described in subcategories listed below. The subcategories are:

Subcategory 1.1—State private line and state WATS lines.

Subcategory 1.2—Interstate private lines and interstate WATS lines.

Subcategory 1.3—Subscriber or common lines that are jointly used for local exchange service and exchange access for state and interestate interexchange services.

(b) The costs assigned to subcategories 1.1 and 1.2 shall be directly assigned to the appropriate jurisdication.

(c) Except as provided in § 36.154(d) through (f), effective January 1, 1986, 25 percent of the costs assigned to subcategory 1.3 shall be allocated to the interstate jurisdiction.

(d) Except as provided in § 36.154(f), the interstate allocation of subcategory 1.3 costs for the years 1988, 1989, 1990, 1991 and 1992 will be as follows:

(1) 1988—The § 36.154(e) allocation factor multiplied by .625 plus .09375.

(2) 1989—The § 36.154(e) allocation factor multiplied by .5 plus .125.

(3) 1990—The § 36.154(e) allocation factor multiplied by .375 plus .15625.

(4) 1991—The § 36.154(e) allocation factor multiplied by .25 plus .1875.

(5) 1992—The § 36.154(e) allocation factor multiplied by .125 plus .21875.

(e) For purposes of the transitional allocations described in § 36.154(d) and (f) an allocation factor known as the subscriber plant factor or SPF that is the sum of the following shall be computed:

(1) Annual average interestate subscriber line use (SLU), for the calendar year 1981.[2] representing the interstate use of the subscriber plant as measured by the ratio of interstate holding time minutes of use to total holding time minutes of use applicable to traffic originating and terminating in the study area, multiplied by .85, the nationwide ratio of subscriber plant costs assignable to the exchange operation per minute of exchange use to total subscriber plant cost per total minute of use of subscriber plant, plus

(2) Twice the annual average interstate subscriber line use ratio for the study area for the calendar year 1981, multiplied by the annual average composite station rate ratio used for the calendar year 1981 (ratio of the nationwide, industry-wide average interstate initial 3-minute station charge at the study area average interstate length of haul to the nationwide, industry-wide average total toll initial 3-minute station charge at the nationwide average length of haul for all toll traffic for the total telephone industry).

(f) *Limit on Change in Interstate Allocation.* (1) No study area's percentage interstate allocation for Subcategory 1.3 Exchange Line C&WF and COE, Exchange Line Circuit Equipment Excluding Wideband—Category 4.13 investment as well as associated maintenance and depreciation shall decrease by a total of more than five percentage points from one calendar year to the next as a result

[2] In the case of a company that cannot calculate the average interstate subscriber line usage (SLU) ratio for the calendar year 1981, the average interstate SLU for the customarily used 12-month study period ending in 1981 may be utilized. In the case of a company for which no such 1981 annual average SLU exists, the annual average interstate SLU for the initial study period will be utilized.

of the combined operations of §§ 36.154(d) and 36.641(a) and (b).

(2) The determination of whether the decrease in the interstate allocation for a given study area resulting from the operation of §§ 36.154(d) and 36.641(a) through § 36.641(b) exceeds five percentage points shall be made by calculating a percentage interstate allocation for both of the years involved. This shall be done by dividing the interstate allocation of subcategory 1.3 Exhange Line C&WF and COE exchange Line circuit Equipment Excluding Wideband Category 4.13 and associated expenses for each year as calculated pursuant to § 36.154(f)(4) by the total unseparated investment in Exchange Line C&WF subcategory 1.3 and COE Category 4.13 and associated expenses for the corresponding year as calculated pursuant to § 36.154(f)(5).

(3) If the resulting percentage for the more recent of the two years is more than five percentage points less than the percentage for the earlier year, the decrease in the interstate allocations shall be reduced pro rata for plant investment, maintenance and depreciation so that the difference between the two percentages does not equal more than five percentage points.

(4) The sum of the following:

(i) The net interstate allocation of Exchange Line C&WF—subcategory 1.3 investment calculated pursuant to §36.154(d) and (e) multiplied by the authorized interstate rate of return.

(ii) The net interstate allocation of COE Exchange Line Circuit Equipment—Category 4.13 investment calculated purusant to § 36.154(d) multiplied by the authorized interstate rate of return.

(iii) The interstate allocation of maintenance and depreciation attributable to Exchange Line C&WF subcategory 1.3 customer premises wire and COE Exhange Line Circuit Equipment—Category 4.13 calculated pursuant to § 36.154(d).

(iv) The amount of the additional interstate expense allocation calculated pursuant to § 36.641.

(5) The sum of the following:

(i) The net unseparated Exchange Line C&WF subcategory 1.3 investment multiplied by the authorized interstate rate of return.

(ii) The net unseparated COE Exchange Line Circuit—Category 4.13 investment multiplied by the authorized interstate rate of return.

(iii) The unseparated maintenance and depreciation attributable to Exchange Line C&WF subcategory 1.3 investment, customer premises wiring investment and COE Exchange Line Circuit Equipment—Category 4.13 investment.

§ 36.155 Wideband and exchange trunk C&WF—Category 2—Apportionment procedures.

(a) The cost of C&WF applicable to this category shall be directly assigned where feasible. If direct assignment is not feasible, cost shall be apportioned between the state and interstate jurisdictions on the basis of the relative number of minutes of use.

§ 36.156 Interexchange Cable and Wire Facilities (C&WF)—Category 3—Apportionment procedures.

(a) An average interexchange cable and wire facilities cost per equivalent interexchange telephone circuit mile for all circuits in Category 3 is determined and applied to the equivalent interexchange telephone circuit mileage counts of each of the classes of circuits.

(b) The cost of C&WF applicable to this category shall be directly assigned where feasible. If direct assignment is not feasible, cost shall be apportioned between the state and interstate jurisdiction on the basis of conversation-minute miles as applied to toll message circuits, TWX circuits, etc.

§ 36.157 Host/remote message Cable and Wire Facilities (C&WF)—Category 4—Apportionment procedures.

(a) *Host/Remote Message C&WF—Category 4.* The cost of host/remote C&WF used for message circuits, i.e., circuits carrying only message traffic, is included in this category.

(1) The cost of host/remote message C&WF excluding WATS closed end access lines for the study area is apportioned on the basis of the relative number of study area minutes-of-use miles applicable to such facilities.

(2) The cost of host/remote message C&WF used for WATS closed end access for the study area is directly assigned to the appropriate jurisdiction.

Amortizable Assets

§ 36.161 Tangible assets—Account 2680.

(a) Tangible Assets, Account 2680 includes the costs of property acquired under capital leases and the original cost of leasehold improvements.

(b) The costs of capital leases are apportioned among the operations based on similar plant owned or by analysis.

(c) The cost of leasehold improvements are apportioned among the operations in direct proportion to the costs of the related primary account.

§ 36.162 Intangible assets—Account 2690.

(a) Intangible Assets, Account 2690 includes the costs of organizing and incorporating the company, franchises, patent rights, and other intangible property having a life of more than one year.

(b) The amount included in this account is apportioned among the operations on the basis of the separation of the cost of Telecommunications Plant In Service, Account 2001, excluding the Intangible Assets, Account 2690.

Telecommunications Plant—Other

§ 36.171 Property held for future telecommunications use—Account 2002; Telecommunications plant under construction—Short term—Account 2003; telecommunications plant under construction—Long term—Account 2004; and telecommunications plant adjustment—Account 2005.

(a) The amounts carried in Accounts 2002, 2003, 2004 and 2005 are apportioned among the operations on the basis of the apportionment of Account 2001 Telecommunications Plant In Service.

Rural Telephone Bank Stock

§ 36.172 Investment in nonaffiliated companies—Account 1402.

(a) The amounts carried in this account shall be separated into subsidiary record categories:

(1) Class B RTB Stock and

(2) All other.

(b) The amounts contained in category (2) all other of § 36.172(a)(2), shall be excluded from Part 67 jurisdictional separations.

(c) The amounts contained in category (1) Class B RTB stock of § 36.172(a)(1), shall be allocated based on the relative separations of Account 2001, Telephone Plant in Service.

Material and Supplies and Cash Working Capital

§ 36.181 Material and supplies—Account 1220.

(a) The amount included in Account 1220 is apportioned among the operations on the basis of the apportionment of the cost of cable and wire facilities in service. Any amounts included in Account 1220 associated with the Customer Premises portion of Account 2310 equipment, shall be excluded from the amounts which are allocated to the interstate operation.

§ 36.182 Cash working capital.

(a) The amount for cash working capital, if not determined directly for a particular operation, is apportioned among the operations on the basis of total expenses less non-cash expense items.

Equal Access Equipment

§ 36.191 Equal access equipment.

(a) Equal access investment includes only initial incremental expenditures for hardware and other equipment related directly to the provision of equal access which would not be required to upgrade the capabilities of the office involved absent the provision of equal access. Equal access investment is limited to such expenditures for converting central offices which serve competitive interexchange carriers where there has been a bona fide request for conversion to equal access.

(b) Equal access investment is first segregated from all other amounts in the primary accounts.

(c) The equal access investment determined in this manner is allocated between the jurisdictions on the basis of relative state and interstate equal access traffic including interstate interLATA equal access traffic, intrastate interLATA equal access traffic, and BOC interstate corridor toll traffic as well as AT&T and OCC intraLATA equal access usage. Local exchange traffic and BOC intraLATA toll traffic is excluded. In the case of independent telephone companies, intrastate toll service provided by the independent local exchange company is excluded in determining intrastate usage, but intrastate toll service provided by long distance carriers affiliated with the local exchange company is included.

Subpart C—Operating Revenues and Certain Income Accounts

General

§ 36.201 Section arrangement.

(a) This subpart is arranged in sections as follows:

§ 36.202 General.

(a) This section sets forth procedures for the apportionment among the operations of operating revenues and certain income and expense accounts.

(b) Except for the Network Access Services Revenues, subsidiary record categories are maintained for all revenue accounts in accordance with the requirements of Part 32. These subsidiary records identify services for the appropriate jurisdiction and will be used in conjunction with apportionment procedures stated in this manual.

Operating Revenues

§ 36.211 General.

(a) Operating revenues are included in the following accounts:

Account Title	Account No.
Basic Local Service Revenue	5000
Network Access Service Revenues:	
Network Access Revenue	5080
End User Revenue	5081
Switched Access Revenue	5082
Special Access Revenue	5083
State Access Revenue	5084
Long Distance Massage Revenue	5100
Miscellaneous Revenue	5200
Uncollectible Revenue	5300

§ 36.212 Basic local services revenue—Account 5000.

(a) Local private line revenues from broadcast program transmission audio services and broadcast program transmission video services are assigned to the interstate operation.

(b) Revenues that are attributable to the origination or termination of interstate FX or CCSA like services shall be assigned to the interstate jurisdiction.

(c) Wideband Message Service and TWX revenues from monthly and miscellaneous charges, service connections, move and change charges, are apportioned between state and interstate operations on the basis of the relative number of TWX minutes-of-use in the study area.

(d) All other revenues in this account are assigned to the exchange operation based on their subsidiary record categories or on the basis of analysis and studies.

§ 36.213 Network access services revenues.

(a) *Network Access Revenue—Account 5080.* (1) This account shall be used by Class A and Class B telecommunications companies to summarize the contents of accounts 5081 through 5084.

(b) *End User Revenue—Account 5081.* (1) Revenues in this account are assigned to the interstate operation.

(c) *Switched Access Revenue—Account 5082.* (1) Revenues in this account are assigned to the interstate operation.

(d) *Special Access Revenue—Account 5083.* (1) Revenues in this account are assigned to the interstate operation.

(e) *State Access Revenue—Account 5084.* (1) Revenues in this account are assigned to the state operation.

§ 36.214 Long distance message revenue—Account 5100.

(a) Wideband message service and TWX revenues from monthly and miscellaneous charges, service connections, move and change charges, are apportioned between state and interstate operations on the basis of the relative number of minutes-of-use in the study area.

(b) Long Distance private line service revenues from broadcast program transmission audio services and broadcast program transmission video services are assigned to the interstate operation.

(c) All other revenues in this account are directly assigned based on their subsidiary record categories or on the basis of analysis and studies.

§ 36.215 Miscellaneous revenue—Account 5200.

(a) Directory revenues are assigned to the exchange operation.

(b) Billing and collection revenues are assigned on the basis of services being provided.

(c) All other revenues are apportioned on the basis of analysis.

§ 36.216 Uncollectible revenue—Account 5300.

(a) The amounts in this account are apportioned among the operations on the basis of analysis of Account 1181-Accounts Receivable Allowance—Telecommunication, during a represented period.

Certain Income Accounts

§ 36.221 Other operating income and expenses—Account 7100.

(a) Amounts relating to translation in foreign exchange differentials are assigned to the interstate operations.

(b) All other amounts are apportioned based on Telecommunications Plant in Service, Account 2001, if plant related, or on the nature of the item reflected in the account, if not plant related.

§ 36.222 Nonoperating income and expenses—Account 7300.

(a) Only allowance for funds used during construction, and charitable, social and community welfare contributions are considered in this account for separations purposes.

(b) Subsidiary record categories should be maintained for this account that include identification of amounts made to the account for (1) credits representing allowance for funds used during construction and (2) contributions for charitable, social or community welfare purposes, employee activities, membership dues and fees in service clubs, community welfare association and similar organizations.

(c) The portion reflecting allowance for funds used during construction is apportioned on the basis of the cost of Telecommunications Plant Under Construction—Long Term Account 2004. The portion reflecting costs for social and community welfare contributions and fees is apportioned on the basis of the apportionment of corporate operations expenses.

§ 36.223 Interest and related items—Account 7500.

(a) Only interest paid relating to capital leases is considered in this account for separations purposes. Subsidiary Record Categories should be maintained for this account that include details relating to interest expense on capital leases. Such interest expense is apportioned on a basis consistent with the associated capital leases in Account 2680.

§ 36.224 Extraordinary items—Account 7600.

(a) Amounts in this account of an operating nature are apportioned on a basis consistent with the nature of these items.

§ 36.225 Income effect of jurisdictional ratemaking differences—Account 7910.

(a) Amounts in this account are directly assigned to the appropriate jurisdiction.

Subpart D—Operating Expenses and Taxes

General

§ 36.301 Section arrangement.

(a) This subpart is arranged in sections as follows:

General	36.301 and 36.302.
Plant Specific Operations Expenses:	
General	36.310.
Network Support/General Support Expenses—Accounts 6110 and 6120.	36.311.
Central Office Expenses—Account 6210, 6220, 6230.	36.321.
Information Origination/Termination Expenses—Account 6310.	36.331.
Cable and Wire Facilities Expenses—Account 6410.	36.341.
Plant Nonspecific Operations Expenses:	
General	36.351.
Other Property Plant and Equipment Expenses—Account 6510.	36.352.
Network Operations Expenses—Account 6530.	36.353.
Access Expenses—Account 6540.	36.354.
Depreciation and Amortization Expenses—Account 6560.	36.361.
Customer Operations Expenses:	
General	36.371.
Marketing—Account 6610	36.372.
Services—Account 6620	36.373.
Corporate Operations Expenses:	
General	36.391.
Executive and Planning Expenses—Account 6710 and General and Administrative Expenses—Account 6720.	36.392.
Operating Taxes—Account 7200	36.411 and 36.412.
Equal Access Expenses	36.421.

§ 36.302 General.

(a) This section sets forth procedures for the apportionment among the operations of operating expenses and operating taxes.

(b) As covered in § 36.2 (c) and (d), the treatment of expenses relating to plant furnished to and obtained from others under rental arrangements is consistent with the treatment of such plant.

(c) In accordance with requirements in Part 32 § 32.5999 (f) expenses recorded in the expense accounts are segregated in the accounting process among the following subsidiary record categories as appropriate to each account:

Salaries and Wages
Benefits
Rents
Other Expenses
Clearances

(1) Subsidiary Record Categories (SRC) for Salaries and Wages, Benefits and Other Expenses are applicable to all of the expense accounts except for:

Access Expense contained in Account 6540
Depreciation and Amortization Expenses—Account 6560

(i) SRC for access expenses are maintained to identify interstate and state access expense and billing and collection expense for carrier's carrier.

(ii) Depreciation and Amortization Expense SRCs identify the character of the items contained in the account.

(2) SRCs for Rents and Clearance are only applicable to the Plant Specific Operating Expense accounts 6110 thru 6410.

Plant Specific Operations Expenses

§ 36.310 General.

(a) Plant specific operations expenses include the following accounts:

Network Support Expenses	Account 6110
General Support Expenses	Account 6120
Central Office Switching Expenses.	Account 6210
Operators System Expenses	Account 6220
Central Office Transmission Expenses.	Account 6230
Information Origination/Termination Expenses.	Account 6310
Cable and Wire Facilities Expenses.	Account 6410

(b) These accounts are used to record costs related to specific kinds of telecommunications plant and predominantly mirror the telecommunications plant in service detail accounts. Accordingly, these expense accounts will generally be apportioned in the same manner as the related plant accounts.

(c) Except where property obtained from or furnished to other companies is treated as owned property by the company making the separation, and the related operating rents are excluded from the separation studies as set forth in § 67.2 (c) and (d), amounts are apportioned among the operations on bases generally consistent with the treatment prescribed for similar plant costs and consistent with the relative magnitude of the items involved.

Network Support/General Support Expenses

§ 36.311 Network support expenses—Account 6110 and general support expenses—Account 6120.

(a) Network Support Expenses are expenses associated with motor vehicles, aircraft, special purpose vehicles, garage work equipment, and other work equipment. General Support Expenses are expenses associated with land and buildings, furniture and artworks, office equipment, and general purpose computers.

(b) The expenses in these account are apportioned among the operations on the basis of the separation of account 2110, Land and Support Assets.

Central Office Expenses

§ 36.321 Central office expenses—Accounts 6210, 6220, and 6230

(a) The expenses related to central office equipment are summarized in the following accounts:

Central Office Switching Expense.	Account 6210
Operator Systems Expense....	Account 6220
Central Office Transmission Expense.	Account 6230

(b) The expense in these accounts are apportioned among the operations on the basis of the separation of the investments in central office equipment. Accounts 2210, 2220 and 2230, combined.

Information Origination/Termination Expenses

§ 36.331 Information origination/termination expenses—Account 6310.

(a) The expenses in this account are classified as follows:

(1) Other Information Origination/Termination Equipment Expenses; Customer Premises Equipment Expenses

(2) For some companies, these classifications are available from accounting records; for others, they are obtained by means of analyses of plant, accounting or other records for a representative period.

(b) Other Information Origination/Termination Equipment Expenses include all expenses not associated with Customer Premises Equipment expenses. These expenses shall be apportioned between state and interstate operations 36 in accordance with the apportionment of the related investment § 36.142(a).

(c) Expenses related to Customer Premises Equipment shall be assigned to the state operations.

Cable and Wire Facilities Expenses

§ 36.341

Cable and wire facilities expenses—Account 6410.

(a) This account includes the expenses for poles, antenna supporting structures, aerial cable, underground cable, buried cable, submarine cable, deep sea cable, intrabuilding network cable, aerial wire, and conduit systems.

(b) The general method of separating cable and wire facilities expenses amoung the operations is to assign them on the basis of Account 2410—Cable and Wire Facilities.

Plant Nonspecific Operations Expenses

§ 36.351 General.

(a) Plant nonspecific operations expenses include the following accounts:

Other Property Plant and Equipment Expenses.	Account 6510
Network Operations Expenses.	Account 6530
Access Expenses.....	Account 6540
Depreciation and Amortization Expenses.	Account 6560

Plant Expenses—Other

§ 36.352 Other property plant and equipment expenses—Account 6510.

(a) This account is used to record the expenses associated with (i) property held for future telecommunications use and (ii) the provisioning of material and supplies.

(b) The expenses in this account are apportioned among the operations based on the separation of Account 2001—Telecommunications Plant in Service.

Network Operations Expenses

§ 36.353 Network operations expenses—Account 6530

(a) This account includes the expenses associated with the provisions of power, network administration, testing, plant operations administration, and engineering.

(b) The expenses in this account are apportioned among the operations based on the separations of Account 2210, Central Office Switching, Account 2220 Operator Systems, Account 2230 Central Office Transmission, Account 2310, Information Origination/Termination and Account 2410, Cable and Wire Facilities, Combined.

§ 36.354 Access expenses—Account 6540.

(a) This account includes access charges paid to exchange carriers for exchange access service. These are directly assigned to the appropriate jurisdiction based on subsidiary record categories or on analysis and study.

Depreciation and Amortization Expenses

§ 36.361 Depreciation and amortization expenses—Account 6560

(a) This account includes the depreciation expenses for telecommunications plant in service and for property held for future telecommunications use. It also includes the amortization expense for tangible and intangible asserts.

(b) Expenses recorded in this account shall be separated on the basis of the separation of the associated primary Plant Accounts or related categories.

Customer Operations Expenses

§ 36.371 General.

(a) Customer Operations Expenses are included in the following accounts:

Marketing.....	Account 6610
Services.....	Account 6620

§ 36.372 Marketing—Account 6610.

(a) The expenses in this account are apportioned among the operations on the basis of an analysis of current billing, excluding billing for access charges during a representative period. This analysis also excludes current billing on behalf of others and billing in connection with intercompany settlements.

§ 36.373 Services—Account 6620.

(a) For apportionment purposes, the expenses in this account are first segregated on the basis of an analysis of job functions into the following classifications: Telephone operator services: publishing directory listing; and all other.

(1) Expenses may be apportioned among the operations for groups of exchanges. A group of exchanges may include all exchanges in the study area.

§ 36.374 Telephone operator services.

(a) Expenses in this classification include costs incurred for operators in call completion service and number services. This includes intercept, quoting rates, directory information, time charges, and all other operator functions performed in the central office, private branch exchange, teletypewriter exchange, and at public telephone stations.

(b) Expenses in this classification are apportioned among the operations on the basis of the relative number of weighted standard work seconds as determined by analysis and study for a representative period.

§ 36.375 Published directory listing.

(a) This classification includes expenses for preparing or purchasing, compiling and disseminating directory listings.

(b) Published directory expense is assigned as follows:

(1) Classified directory expense and all expense of soliciting advertising is assigned to the exchange operation.

(2) TWX directory expense is assigned to State toll and interstate toll operations, respectively, on the basis of

the relative number of TWX minutes-of-use.

(3) The expense of alphabetical and street address directories and traffic information records is apportioned among the operations on the basis of the relative number of study area subscriber line minutes-of-use applicable to each operation.

(4) The expense associated with directories and traffic information records prepared for one locality and used in another locality is known as "foreign directories expense." Such expense is assigned to the appropriate operation on the basis of the location of the point where used with respect to the locality for which the directories and records were prepared.

§ 36.376 All other.

(a) For apportionment purposes this classification must be divided into three categories:

(1) Category 1—Local Business Office Expense.

(2) Category 2—Customer Services Expense.

(3) Category 3—All Other Customer Services Expense.

§ 36.377 Category 1, Local business office expense.

(a) The expense in this category for the area under study is first segregated on the basis of an analysis of job functions into the following subcategories: End user service order processing; end user payment and collection; end user billing inquiry; interexchange carrier service order processing; interexchange carrier payment and collection; interexchange carrier billing inquiry; and coin collection and administration.

(1) End-user service order processing includes expenses related to the receipt and processing of end users' orders for service and inquiries concerning service. This subcategory does not include any service order processing expenses for services provided to the interexchange carriers. End user service order processing expenses are first segregated into the following subcategories based on the relative number of actual contacts which are weighted, if appropriate, to reflect differences in the average work time per contact: Local service order processing; presubscription; directory advertising; State private line and special access; interstate private line and special access; other State message toll including WATS; other interstate message toll including WATS; and TWX.

(i) Local service order processing expense (primarily local telephone service orders) is assigned to the State jurisdiction.

(ii) Presubscription service order processing expense is assigned to the interstate jurisdiction.

(iii) Directory advertising service order processing expense is assigned to the State jurisdiction.

(iv) State private line and special access service order processing expense is assigned to the State jurisdiction.

(v) Interstate private line and special access service order processing expense is assigned to the interstate jurisdiction.

(vi) Other State message toll including WATS service order processing expense is assigned to the State jurisdiction.

(vii) Other Interstate message toll including WATS service order processing expense is assigned to the interstate jurisdiction.

(viii) TWX service order processing expense is allocated between the jurisdictions based on relative State and interstate billed TWX revenues.

(2) End User payment and collection includes expenses incurred in relation to the payment and collection of amounts billed to end users. It also includes commissions paid to payment agencies (which receive payment on customer accounts) and collection agencies. This category does not include any payment or collection expenses for services provided to interexchange carriers. End user payment and collection expenses are first segregated into the following subcategories based on relative total state and interstate billed revenues (excluding revenues billed to interexchange carriers and/or revenues deposited in coin boxes) for services for which end user payment and collection is provided: State private line and special access; interstate private line and special access; State message toll including WATS; interstate message toll including WATS, and interstate subscriber line charge; local, including directory advertising; and TWX.

(i) State private line and special access payment and collection expense is assigned to the State jurisdiction.

(ii) Interstate private line and special access payment and collection expense is assigned to the interstate jurisdiction.

(iii) State message toll including WATS payment and collection expense is assigned to the State jurisdiction.

(iv) Interstate message toll including WATS and interstate subscriber line charge payment and collection expense is assigned to the interstate jurisdiction.

(v) Local, including directory advertising payment and collection expense is assigned to the State jurisdiction.

(vi) TWX payment and collection expense is allocated between the jurisdictions based on relative State and interstate billed TWX revenues for service for which end user payment and collection is provided.

(3) End user billing inquiry includes expenses related to handling end users' inquiries concerning their bills. This category does not include expenses related to the inquiries of interexchange carriers concerning their bills. End user billing inquiry costs are first segregated into the following subcategories based on the relative number of actual contracts, weighted if appropriate, to reflect differences in the average work time per contact: State private line and special access; interstate private line and special access; State message toll including WATS, interstate message toll including WATS, interstate subscriber line charge; TWX; and other.

(i) State private line and special access billing inquiry expense is directly assigned to the State jurisdiction.

(ii) Interstate private line and special access billing inquiry expense is directly assigned to the interstate jurisdiction.

(iii) State message toll including WATS billing inquiry expense is directly assigned to the State jurisdiction.

(iv) Interstate message toll including WATS, and interstate subscriber line charge billing inquiry expense is directly assigned to the interstate jurisdiction.

(v) TWX billing inquiry expense is allocated between the jurisdictions based on relative State and interstate billed TWX revenues for service for which end user billing inquiry is provided.

(vi) Other billing inquiry expense (primarily related to local bills but also including directory advertising) is directly assigned to the State jurisdiction.

(4) Interexchange carrier service order processing includes expenses associated with the receipt and processing of interexchange carrier orders for service and inquiries about service. Interexchange carrier service order processing expenses are assigned to the following subcategories based on the relative number of actual contacts which are weighted, if appropriate, to reflect differences in the average work time per contact: State special access and private line; interstate special access and private line; State switched access and message toll including WATS; interstate switched access and message toll including WATS; State billing and collection; and interstate billing and collection.

(i) State special access and private line service order processing expense is directly assigned to the State jurisdiction.

(ii) Interstate special access and private line service order processing expense is directly assigned to the interstate jurisdiction.

(iii) State switched access and message toll including WATS service order processing expense is directly assigned to the State jurisdiction.

(iv) Interstate switched access and message toll including WATS service order processing expense is directly assigned to the interstate jurisdiction.

(v) State billing and collection service order processing expense is directly assigned to the state jurisdiction.

(vi) Interstate billing and collection service order processing expense is directly assigned to the interstate jurisdiction.

(5) Interexchange carrier payment and collection includes expenses associated with the payment and collection of interexchange carrier billings, including commissions paid to payment and collection agents. Interexchange carrier payment and collection expenses are assigned to the following subcategories based on relative total State and interstate revenues billed to the interexchange carriers: State special access and private line; interstate special access and private line; State switched access and message toll including WATS; interstate switched access and message toll including WATS; State billing and collection; and interstate billing and collection.

(i) State special access and private line payment and collection expense is directly assigned to the Interstate jurisdiction.

(ii) Interstate special access and private line payment and collection expense is directly assigned to the interstate jurisdiction.

(iii) State switched access and message toll including WATS payment and collection expense is directly assigned to the State jurisdiction.

(iv) Interstate switched access and message toll including WATS payment and collection expense is directly assigned to the interstate jurisdiction.

(v) State billing and collection payment and collection expense is directly assigned to the interstate jurisdiction.

(vi) Interstate billing and collection payment and collection expense is directly assigned to the State jurisdiction.

(6) Interexchange carrier billing inquiry includes expenses related to the handling of interexchange carrier billing inquiries. Interexchange carrier billing inquiry expenses are assigned to the following subcategories based on the relative number of actual contacts, weighted if appropriate, to reflect differences in the average work time per contact: State special access and private line; interstate special access and private line; State switched access and message toll including WATS; interstate switched access and message toll including WATS; State billing and collection; and interstate billing and collection.

(i) State special access and private line billing inquiry expenses is directly assigned to the State jurisdiction.

(ii) Interstate special access and private line billing inquiry expense is directly assigned to the interstate jurisdiction.

(iii) State switched access and message toll including WATS billing inquiry expense is directly assigned to the State jurisdiction.

(iv) Interstate switched access and message toll including WATS billing inquiry expense is directly assigned to the interstate jurisdiction.

(v) State billing and collection billing inquiry expense is directly assigned to the State jurisdiction.

(vi) Interstate Billing and Collection billing inquiry expense is directly assigned to the interstate jurisdiction.

(7) Coin collection and administration includes expenses for the collection and counting of money deposited in public or semi-public phones. It also includes expenses incurred for required travel, coin security, checking the serviceability of public or semi-public telephones, and related functions. These expenses are apportioned between the State and interstate jurisdictions in proportion to the relative State and interstate revenues deposited in the public and semi-public telephones.

§ 36.378 Category 2—Customer services (revenue accounting).

(a) The Revenue Accounting proportion of Account 6620 expenses comprise the salaries and other expenses in Account 6620 directly assignable or allocable to the billing of customers and the accounting for revenues, including the supervision of such work.

(b) Revenue Accounting expenses for the study area are separated on the basis of a Job Function analysis into three main classifications: Message processing expense, other billing and collecting expense, and carrier access charge billing and collecting expense.

(c) The term "ticket" denotes either a ticket prepared manually by an operator or the mechanized equivalent of such a ticket processed by the revenue accounting office.

§ 36.379 Message processing expense.

(a) This classification includes the salary and machine expense of data processing equipment, including supervision, general accounting administrative and miscellaneous expense associated with the processing of individual toll tickets and local message tickets.

(b) The expense assigned to this classification is divided into the subcategories Toll Ticket Processing Expense and Local Message Processing Expense on the basis of the relative number of messages. Toll Ticket Processing Expense is allocated between the State and interstate jurisdiction on the basis of the relative number of toll messages. Local Message Processing Expense is assigned to the exchange operation.

§ 36.380 Other billing and collecting expense.

(a) This classification includes the salary expense and the machine expense of data processing equipment, including supervision, general accounting administrative, and miscellaneous expense, associated with the preparation of customer bills other than access charge bills and with other Revenue Accounting functions not covered in the Message Processing Expense and Carrier Access Charge Billing and Collecting Expense classifications. Included in this classification are the expenses incurred in the preparation of monthly bills, initial and final bills, the application of service orders to billing records, (establishing, changing, or discontinuing customers' accounts) station statistical work, controlling record work and the preparation of revenue reports.

(b) The expenses assigned this classification are segregated on the basis of the relative number of users in the study area of the following services: Interstate Message toll, private line, and TWX; and, exchange, State message toll, private line, directory advertising and TWX. In determining the number of users, an individual customer is counted once for each class of service which he or she uses; for example a customer may be counted both as an interstate or State message toll service user and as an exchange service user.

(1) *Exchange Carriers.* (i) A frozen base period interstate factor is calculated by determining the average number of interstate users, as defined in paragraph (b) of this section, billed during the calendar year 1984 as a percentage of the average total number of users billed during 1984.

(ii) A current period interstate factor is calculated by determining the average number of interstate users, as defined in paragraph (b) of this section, billed for the previous calendar year as a percentage of the average total number of users billed for the previous calendar year.

(iii) Apportionment of expense to the interstate jurisdiction is determined by dividing the factor calculated in § 36.380(b)(1)(ii) by the factor calculated in § 36.380(b)(1)(i) and multiplying the result times .33; plus, 1 minus the result times .05. This is represented by the following formula: $[(ii/i) \times .33] + [(1-(ii/i)) \times .05]$.

(iv) Apportionment to the interstate jurisdiction is subject to a maximum of .33 and a minimum of .05 of costs assigned to this classification.

(2) *Interexchange Carriers.* (i) Apportionment among the operations is on the basis of the relative number of users of interstate and state services.

§ 36.381 Carrier access charge billing and collecting expense.

(a) This classification includes the revenue accounting functions associated with the billing and collecting of access charges to interexchange carriers.

(b) Of access charges other than end user common line access charges are assessed for the origination or termination of intrastate services in a particular state, one-half of such expense shall be apportioned to interstate operations. If no such access charges are assessed in a particular state, all such expense shall be assigned to interstate operations.

§ 36.382 Category 3—All other customer services expense.

Category 3 is apportioned on the basis of categories 1 and 2.

Corporate Operations Expense

§ 36.391 General.

(a) Corporate Operations Expenses are included in the following accounts:

Executive and Planning.....Account 6710
General and Administrative.....Account 6720

§ 36.392 Executive and planning—Account 6710, and general and administrative—Account 6720.

(a) These expenses are divided into two categories:

(1) Extended Area Services (EAS).

(2) All other.

(b) Extended Area Services (EAS) settlements are directly assigned to the exchange operation.

(c) The expenses in these accounts are apportioned among the operations on the basis of the separation of the cost of the combined Big Three Expenses which include the following accounts:

Plant Specific Expenses

6210 Central Office Switching Expenses
6220 Operators Systems Expenses
6230 Central Office Transmission Expenses
6310 Information Origination/Termination Expenses
6410 Cable and Wire Facilities Expense

Plant Non-Specific Expenses

6530 Network Operations Expenses

Customer Operations Expenses

6610 Marketing
6620 Services

Operating Taxes

§ 36.411 Operating taxes—Account 7200.

(a) This account includes the taxes arising from the operations of the company, i.e.,

Operating Investment Tax Credits
Operating Federal Income Taxes
Operating State and Local Income Taxes
Operating Other Taxes
Provision for Deferred Operating Income Taxes

§ 36.412 Apportionment procedures.

(a) For apportionment purposes, the expenses in this account are segregated into two groups as follows: (1) Operating Federal, State and local income taxes and (2) all other operating taxes.

(b) Operating Federal, State and local income taxes are apportioned among the operations on the basis of the approximate net taxable income (positive or negative) applicable to each of the operations. The approximate net taxable income from each of the operations is the summation of the following amounts apportioned to each operation by means of the procedures set forth in this Manual:

(1) Operating revenues,

(2) Less operating expenses,

(3) Less operating taxes except the net income tax being apportioned and except any other tax not treated as a deductible item in the determination of taxable net income for this purpose.

(4) Less operating fixed charges.

(i) The amount of fixed charges attributable to the operations is obtained by subtracting the tax component (positive or negative) attributable to other than the operating fixed charges, i.e., fixed charges on non-operating investments are that proportion of total fixed charges which non-operating net investments are of total operating and non-operating net investments.

(ii) Operating fixed charges including interest on Rural Telephone Bank Stock are apportioned among the operations on the basis of the separation of the cost of telephone plant less appropriate reserves.

(c) Other operating taxes should be directly assigned to the appropriate jurisdiction where possible, e.g., Local Gross Receipts may be directly identified as applicable to one jurisdiction. Where direct assignment is not feasible, these expenses should be apportioned among the operations on the basis of the separation of the cost of Telecommunications Plant in Service—Account 2001.

Equal Access Expenses

§ 36.421 Equal access expenses.

(a) Equal access expenses include only initial incremental pre-subscription costs and other initial incremental expenditures related directly to the provision of equal access, that would not be required to upgrade the capabilities of the office involved absent the provision of equal access. Equal access expenses are limited to such expenditures for converting central offices that serve competitive interexchange carriers or where there has been a bona fide request for conversion to equal access.

(b) Equal access expenses are apportioned between the jurisdictions by first segregating them from all other expenses in the primary accounts and then allocating them on the same basis as equal access investment.

Subpart E—Reserves and Deferrals

§ 36.501 General.

(a) For separations pruposes, reserves and deferrals include the following accounts:

Other Jurisdictional Assets—Net.	Account 1500
Accumulated Depreciation	Account 3100
Accumulated Depreciation—Property Held for Future Telecommunications Use.	Account 3200
Accumulated Amortization—Tangible.	Account 3400
Accumulated Amortization—Intangible.	Account 3500
Accumulated Amortization—Other.	Account 3600
Net Current Deferred Operating Income Taxes.	Account 4100
Net Noncurrent Deferred Operating Income Taxes.	Account 4340
Other Jurisdictional Liabilities and Deferred Credits—Net.	Account 4370

§ 36.502 Other jurisdictional assets—Net—Account 1500.

(a) Amounts in this account are separated based upon analysis of the specific items involved.

§ 36.503 Accumulated depreciation—Account 3100.

(a) Amounts recorded in this account shall be separated on the basis of the separation of the associated primary Plant Accounts or related categories, excluding amortizable assets.

§ 36.504 Accumulated depreciation—Property held for future telecommunications use—Account 3200.

(a) Amounts in this account are apportioned among the operations on the basis of the separation of the costs of the related items carried in Account 2002—Property Held for Future Telecommunications Use.

§ 36.505 Accumulated amortization—Tangible—Account 3400. Accumulated amortization—Intangible—Account 3500, and accumulated amortization—Other—Account 3600.

(a) Amounts in these accounts are apportioned among the operations on the basis of the separation of the related accounts.

§ 36.506 Net current deferred operating income taxes—Account 4100 Net noncurrent deferred operating income taxes—Account 4340.

(a) Amounts in these accounts are maintained by plant account and are apportioned among the operations on the basis of the separations of the related plant accounts.

§ 36.507 Other jurisdictional liabilities and deferred credits—Net—Account 4370.

(a) Amounts in this account are separated based upon an analysis of the specific items involved.

Subpart F—Universal Service Factor

General

§ 36.601 General.

(a) For purposes of § 3601(a) of the Rules of the Federal Communications Commission, the Universal Service Factor portion of the interstate apportionment shall consist of an expense adjustment computed in accordance with this section. The expense adjustment will be added to interstate expenses and deducted from state expenses after expenses and taxes have been apportioned pursuant to Subpart D.

(b) The expense adjustment will be computed on the basis of data for a preceding calendar year which may be updated at the option of the carrier pursuant to § 36.612(a).

Data Collection

§ 36.611 Submission of information to the National Exchange Carrier Association (NECA).

(a) In order to allow determination of the study areas which are entitled to an expense adjustment, each local telephone company must provide the National Exchange Carrier Association (NECA) (established pursuant to Part 69 of the Commission's Rules) with the information listed below for each of its study areas. This information is to be filed with the Association on June 30th of each year. The information filed on June 30th of each year will be used in the jurisdictional allocations underlying the cost support data for the access charge tariffs to be filed the following October.

(1) Unseparated, i.e., state and interstate, gross plant investment in Exchange Line Cable and Wire Facilities (C&WF) Subcategory 1.3 and Exchange Line Central Office (CO) Circuit Equipment Category 4.13. This amount shall be calculated as of December 31st of the year preceding each June filing

(2) Unseparated accumulated depreciation and noncurrent deferred federal income taxes, attributable to Exchange Line C&WF Subcategory 1.3 investment, and Exchange Line CO Circuit Equipment Category 4.13 investment. These amounts shall be calculated as of December 31st of the year preceding each June filing, and shall be stated separately.

(3) Unseparated depreciation expense attributable to Exchange Line C&WF Subcategory 1.3 investment, and Exchange Line CO Circuit Equipment Category 4.13 investment. This amount shall be the actual depreciation expense for the calendar year preceding each June filing.

(4) Unseparated maintenance expense attributable to Exchange Line C&WF Subcategory 1.3 investment and Exchange Line CO Circuit Equipment Category 4.13 investment. This amount shall be the actual repair expense for the calendar year preceding each June filing.

(5) Unseparated corporate operations expenses, operating taxes, and the benefits and rent portions of operating expenses. The amount for each of these categories of expense shall be the actual amount for that expense for the calendar year preceding each June filing. The amount for each category of expense listed shall be stated separately

(6) Unseparated gross telecommunications plant investment. This amount shall be calculated as of December 31st of the year preceding each June filing

(7) Unseparated accumulated depreciation and noncurrent deferred federal income taxes attributable to total unseparated telecommunications plant investment. This amount shall be calculated as of December 31st of the year preceding each June filing

(8) The number of working Exchange Line C&WF excluding wideband and used jointly for exchange and message telcommunications service, excluding WATS closed end access and TWX service, but including subscriber lines of C&WF associated with pay telephones in Category 1. This figure shall be calculated as of December 31st of the year preceding each June filing.

§ 36.612 Updating information submitted to the National Exchange Carrier Association.

(a) Any telecommunications company may update the information submitted to the National Exchange Carrier Association pursuant to § 36.611(a)(1) through (a)(8) one or more times annually on a rolling year basis. Carriers wishing to update the preceding calendar year data filed June 30th may:

(1) Submit date covering the last nine months of the previous calendar year and the first three months of the existing calendar year no later than September 30th of that year;

(2) Submit data on the last six months of the previous calendar year and the first six months of the existing year no later than December 30th of the existing year; and/or

(3) Submit data on the last three months of the second preceding calendar year and the first nine months of the preceding calendar year no later than March 30th of the existing year.

§ 36.613 Submission of information by the National Exchange Carrier Association.

(a) On September 1 of each year after 1987, the National Exchange Carrier Association shall file with the Commission the information listed below. Information filed with the Commission shall be compiled from information provided to the Association by telephone companies pursuant to § 36.611.

(1) The unseparated loop cost for each study area and a nationwide-average unseparated loop cost.

(2) The annual amount of the high cost expense adjustment for each study area, and the total nationwide amount of the expense adjustment.

(3) The dollar amount and percentage of the increase in the nationwide

average unseparated loop cost, as well as the dollar amount and percentage increase for each study area, for the previous 5 years, or the number of years NECA has been receiving information under § 36.611, whichever is the shorter time period.

Calculation of Loop Costs for Expense Adjustment

§ 36.621 National and Study Area Average Unseparated Loop Costs per Working Loop.

(a) *Study Area Unseparated Loop Cost.* For the purposes of calculation of the expense adjustment, the study area unseparated loop cost is equal to the sum of the following:

(1) Return component for net unseparated Exchange Line C&WF subcategory 1.3 investment and Exchange Line CO Circuit Equipment Category 4.13 investment. This amount is calculated by deducting the accumulated depreciation and noncurrent deferred Federal income taxes attributable to C&WF subcategory 1.3 investment and exchange line Category 4.13 circuit investment reported pursuant to § 36.611(a)(2) from the gross investment in Exchange Line C&WF subcategory 1.3 and CO Category 4.13 reported pursuant to § 36.611(a)(1) to obtain the net unseparated C&WF subcategory 1.3 investment, and CO Category 4.13 investment. The net unseparated C&WF subcategory 1.3 investment and CO Category 4.13 investment is multiplied by the study area's authorized interstate rate of return.

(2) Depreciation expense attributable to C&WF subcategory 1.3 investment, and CO Category 4.13 investment as reported in § 36.611(a)(3).

(3) Maintenance expense attributable to C&WF subcategory 1.3 investment, and CO Category 4.13 investment as reported in § 36.611(a)(4).

(4) Corporate Operations and other expenses and taxes as stated in § 36.611(a)(5) attributable to Exchange C&WF subcategory 1.3 investment, and CO Category 4.13 investment. This amount equals the net unseparated Exchange C&WF subcategory 1.3 investment, and CO Category 4.13 investment as calculated in § 36.621(a)(1) multiplied by the unseparated corporate operations and other expenses and taxes as reported in § 36.611(a)(5) divided by the unseparated net investment for total telecommunications plant for the study area. The unseparated net investments for total telecommunications plant for the study area equals the unseparated gross telecommunications plant investment as reported in § 36.611(a)(6) minus the unseparated accumulated depreciation and noncurrent deferred Federal income taxes attributable to total telecommunications plant as reported in § 36.611(a)(7).

§ 36.622 National and Study Area Average Loop Cost per Loop.

(a) National Average Unseparated Loop Cost per Working Loop. This is equal to the sum of the Loop Costs for each study area in the country as calculated pursuant to § 36.621(a) divided by the sum of the working loops reported in § 36.611(a)(8) for each study area in the country. The national average unseparated loop cost per working loop shall be calculated by the National Exchange Carrier Association.

(1) The National Average Unseparated Loop Cost per Working Loop shall be recalculated by the National Exchange Carrier Association to reflect the optional September, December and March update filings.

(2) Each new nationwide average shall be used in determining the additional interstate expense allocation for companies which made filings by the most recent filing date.

(3) The calculation of a new national average to reflect the update filings shall not affect the amount of the additional interstate expense allocation for companies which did not make an update filing by the most recent filing date.

(b) Study Area Average Unseparated Loop Cost per Working Loop. This is equal to the unseparated loop costs for the study area as calculated pursuant to § 36.621(a) divided by the number of working loops reported in § 36.611(a)(8) for the study area.

(1) If a company elects to update the data which it has filed with the National Exchange Carrier Association as provided in § 36.612(a), the study area average unseparated loop cost per working loop and the amount of its additional interstate expense allocation shall be recalculated to reflect the updated data.

Calculation of Expense Adjustment—Additional Interstate Expense Allocation

§ 36.631 Expense adjustment.

(a) Until December 31, 1987, for study areas reporting 50,000 or fewer working loops pursuant to § 36.611(a)(8), the expense adjustment (additional interstate expense allocation) is equal to the sum of the following:

(1) Fifty percent of the study area average unseparated loop cost per working loop as calculated pursuant to § 36.622(b) in excess of 115 percent of the national average for this cost but not greater than 150 percent of the national average for this cost as calculated pursuant to § 36.622(a) multiplied by the number of working loops reported in § 36.611(a)(8) for the study area.

(2) Seventy-five percent of the study area unseparated loop cost per working loop as calculated pursuant to § 36.622(b) in excess of 150 percent of the national average for this cost as calculated pursuant to § 36.622(a) multiplied by the number of working loops reported in § 36.611(a)(8) for the study area.

(b) Until December 31, 1987, for study areas reporting more than 50,000 working loops pursuant to § 36.611(a)(8), the expense adjustment (additional interstate expense allocation) is equal to the sum of the following:

(1) Twenty-five percent of the study area average unseparated loop cost per working loop as calculated pursuant to § 36.622(b) in excess of 115 percent of the national average for this cost but not greater than 150 percent of the national average for this cost as calculated pursuant to § 36.622(a) multiplied by the number of working loops reported in § 36.611(a)(8) for the study area.

(2) The amount calculated pursuant to § 36.631(a)(2).

(c) Beginning January 1, 1988, for study areas reporting 200,000 or fewer working loops pursuant to § 36.611(a)(8), the expense adjustment (additional interstate expense allocation) is equal to the sum of the following:

(1) Sixty-five percent of the study area average unseparated loop cost per working loop as calculated pursuant to § 36.622(b) in excess of 115 percent of the national average for this cost but not greater than 150 percent of the national average for this cost as calculated pursuant to § 36.622(a) multiplied by the number of working loops reported in § 36.611(a)(8) for the study area.

(2) Seventy-five percent of the study area average unseparated loop cost per working loop as calculated pursuant to § 36.662(b) in excess of 150 percent of the national average for this cost as calculated pursuant to § 36.622(a) multiplied by the number of working loops reported in § 36.611(a)(8) for the study area.

(d) Beginning January 1, 1988, for study areas reporting more than 200,000 working loops pursuant to § 36.611(a)(8), the expense adjustment (additional interstate expense allocation) is equal to the sum of the following:

(1) Ten percent of the study area average unseparated loop cost per working loop as calculated pursuant to § 36.622(b) in excess of 115 percent of the national average for this cost but not

greater than 160 percent of the national average for this cost as calculated pursuant to § 36.622(a) multiplied by the number of working loops reported in § 36.611(a)(8) for the study area.

(2) Thirty percent of the study area average unseparated loop cost per working loop as calculated pursuant to § 36.622(b) in excess of 160 percent of the national average for this cost but not greater than 200 percent of the national average for this cost as calculated pursuant to § 36.622(a) multiplied by the number of working loops reported in § 36.611(a)(8) for the study area.

(3) Sixty percent of the study area average unseparated loop cost per working loop as calculated pursuant to § 36.622(b) in excess of 200 percent of the national average for this cost but not greater than 250 percent of the national average for this cost as calculated pursuant to § 36.622(a) multiplied by the number of working loops reported in § 36.611(a)(8) for the study area.

(4) Seventy-five percent of the study area average unseparated loop cost per working loop as calculated pursuant to § 36.622(b) in excess of 250 percent of the national average for this cost as calculated pursuant to § 36.622(a) multiplied by the number of working loops reported in § 36.611(a)(8) for the study area.

Transitional Expense Adjustment

§ 36.641 Transition.

(a) The expense adjustment for 1993 and subsequent years shall be the amount computed in accordance with § 36.631.

(b) The expense adjustments for 1988 through 1992 shall be as follows:

(1) Three-eighths of the amount computed in accordance with § 36.631 in 1988;

(2) One-half of the amount computed in accordance with § 36.631 in 1989;

(3) Five-eighths of the amount computed in accordance with § 36.631 in 1990;

(4) Three-quarters of the amount computed in accordance with § 36.631 in 1991; and

(5) Seven-eighths of the amount computed in accordance with § 36.631 in 1992.

Subpart G—Lifeline Connection Assistance Expense Allocation

§ 36.701 General

(a) The Lifeline Connection Assistance Expense portion of the interstate apportionment shall consist of an expense adjustment computed in accordance with this subpart. The expense adjustment will be added to interstate expenses and deducted from state expenses for eligible study areas as defined in this subpart after all other steps required by this part have been completed.

(b) The expense adjustment will be computed as provided in § 36.741.

Definitions

§ 36.711 Lifeline Connection Assistance.

(a) For purposes of this subpart, Lifeline Connection Assistance shall describe the following lifeline telephone assistance for eligible residential subscribers as defined in § 36.711(b):

(1) A reduction in the charges for commencing telephone service assessed for a single telephone line per household at the principal place of residence; and/or

(2) A deferred schedule for payment of the charges assessed for commencing service, for which the telephone company does not charge interest.

(b) In order to be eligible for assistance, a residential subscriber must:

(1) Have lived at an address where there has been no telephone service for at least three months immediately prior to the date that the assistance described in §§ 36.711(a)(1) and/or 36.711(a)(2) is requested from the telephone company;

(2) Not have received assistance pursuant to §§ 36.711(a)(1) and/or 36.711(a)(2) within the last two years, with receipt of such assistance to be measured from the date of initiation of the telephone service for which assistance was provided;

(3) Not be a dependent for federal income tax purposes as defined in 26 U.S.C. 152 (1986) unless the subscriber is more than 60 years of age; and

(4) Meet the requirements of a state established income test.

(c) Charges assessed for commencing service include any state tariffed charges levied for connecting a subscriber to the network. These charges do not include security deposit requirements.

Telephone Company Eligibility

§ 36.721 Telephone Company Eligibility for Lifeline Connection Assistance Expense Allocation.

(a) In order to be entitled to the additional interstate expense adjustment described in this subpart a telephone company:

(1) Must provide Lifeline Connection Assistance as defined in §§ 36.711(a)(1) and/or 36.711(a)(2) to eligible subscribers as defined in § 36.711(b);

(2) Shall verify that subscribers meet the eligibility criteria set out in §§ 36.711(b) (1) and (2) provided that:

(i) Verification of subscriber eligibility by designated State officials may be substituted for verification by the telephone company;

(ii) If a State determines that it is administratively or economically infeasible for the State or telephone company to verify the eligibility criteria described in §§ 36.711(b) (1) and (2) when the necessary information must be provided by a telephone company or agency outside the State, or when this determination is made in other specified circumstances, self-certification of these criteria will be allowed;

(iii) If the eligibility criteria described in §§ 36.711(b) (1) and (2) are self-certified, the eligibility criterion described in § 36.711(b)(4) must be verified by the State or by the telephone company;

(3) May accept self-certification of the eligibility criteria described in §§ 36.711(b) (3) and (4), except as provided in § 36.721(a)(2)(iii).

(4) Shall file information with the Commission Secretary demonstrating that it is eligible for the additional interstate expense adjustment.

(b) The additional interstate expense adjustment shall be effective as soon as the Commission certifies that the State or local telephone company is eligible for the additional interstate expense adjustment, the local exchange company files the data required by § 36.731 with the National Exchange Carrier Association, and the relevant tariff provisions become effective.

Data Collection

§ 36.731 Submission of information to the National Exchange Carrier Association.

(a) In order to allow calculation of the lifeline expense adjustment each local telephone company wishing to receive the additional interstate expense allocation provided for in this subpart shall provide the National Exchange Carrier Association established pursuant to Part 69 of the Commission's rules with the information listed below for each of its study areas. The information for the succeeding calendar year is to be filed with the Association on June 30th of each year after certification of the plan by the Commission pursuant to § 36.721(b). The information filed on June 30th of each year will be used in the jurisidictional allocations underlying the cost support data for the access tariffs to be filed the following October.

(1) An estimate of the number of eligible households which will receive the lifeline assistance described in § 36.711(a)(1) pursuant to a lifeline

assistance program which has received Commission certification.

(2) An estimate of the average discount on service commencement charges to be provided to each subscriber, not to exceed 50 percent of the charges for commencement of the same service applicable to non-lifeline customers or $30.00, whichever is less;

(3) An estimate of the number of eligible subscribers which will receive the lifeline assistance described in § 36.711(a)(2).

(4) An estimate of the average deferred interest cost for each subscriber, *Provided That:*

(i) The deferred amount on which the cost of interest shall be calculated is not to exceed $200.00; and

(ii) Interest shall be applied only to amounts actually outstanding, at the rate for 10-year Treasury Bills on January 1 of each year, with the interest rate adjusted only with each filing.

(b) In the event that this additional interstate expense allocation is to be in effect for a given study area for less than a full calendar year, the carrier is to submit the information described in § 36.731(a) (1) through (4) adjusted to reflect the number of subscribers and the relevant costs for the portion of the year during which this expense adjustment will be in effect as part of its § 36.721(a)(4) submission to the Commission. These data shall be filed with NECA at the same time they are filed with the Commission.

Calculation of Lifeline Connection Assistance Expense Adjustment

§ 36.741 Expense adjustment.

(a) The additional interstate expense allocation shall be calculated by adding the following:

(1) The number of households provided pursuant to § 36.731(a)(1) times the dollar amount provided pursuant to § 36.731(a)(2); and

(2) The number of households provided pursuant to § 36.731(a)(3) times the dollar amount provided pursuant to § 36.731(a)(4).

(b) The expense adjustment calculated pursuant to § 36.741(a) shall be adjusted each year to reflect the actual number of lifeline recipients and the actual dollar amount of the benefits provided to them in the previous year. If the actual benefits provided in a given calendar year exceed the estimated benefits for that year calculated pursuant to § 36.741(a), this difference shall be added to the amount calculated pursuant to § 36.741(a) for the following year. If the actual benefits provided in a given year are less than the estimated amount for that year calculated pursuant to § 36.741(a), this difference shall be subtracted from the amount calculated pursuant to § 36.741(a) for the following year.

(c) A pro-rata share of the expense adjustment calculated pursuant to § 36.741 (a) and (b) shall be subtracted from the intrastate expenses for each account described below as calculated pursuant to the preceding subparts of Part 36 and added to the interstate expenses for each such account calculated pursuant to the preceding subparts of Part 36. The pro-rata share for each account shall be calculated by multiplying the total interstate expense adjustment by the ratio of the unseparated expenses for the account involved to the unseparated expenses for all of the accounts listed below:

(1) Account 6410—Cable and Wire Facilities Expense

(2) Account 6530—Network Operations Expenses

(3) Account 6210—CO Switching Expenses, Account 6220—Operators System Expenses and Account 6230 CO Transmission Expenses

(4) Account 6620—Customer Services (Local Business Office Expense)

(5) Account 6620—Customer Services (Revenue Accounting)

Appendix—Glossary

The descriptions of terms in this glossary are broad and have been prepared to assist in understanding the use of such terms in the separation procedures. Terms which are defined in the text of this part are not included in this glossary.

Access Line

A communications facility extending from a customer's premises to a serving central office comprising a subscriber line and, if necessary, a trunk facility, e.g., a WATS access line, TWX access line.

Book Cost

The cost of property as recorded on the books of a company.

Cable Fill Factor

The ratio of cable conductor or cable pair miles in use to total cable conductor or cable pair miles available in the plant, e.g., the ratio of revenue producing cable pair miles in use to total cable pair miles in plant.

Category

A grouping of items of property or expense to facilitate the apportionment of their costs among the operations and to which, ordinarily, a common measure of use is applicable.

Central Office

A switching unit, in a telephone system which provides service to the general public, having the necessary equipment and operations arrangements for terminating and interconnecting subscriber lines and trunks or trunks only. There may be more than one central office in a building.

Channel

An electrical path suitable for the transmission of communications between two or more points, ordinarily between two or more stations or between channel terminations in Telecommunication Company central offices. A channel may be furnished by wire, fiberoptics, radio or a combination thereof.

Circuit

A fully operative communications path established in the normal circuit layout and currently used for message, WATS access, TWX, or private line services.

Circuit Mileage or Miles

The route miles of revenue producing circuits in service, determined by measuring the length, in terms of miles, of the actual path followed by the transmission medium.

Common Channel Network Signaling

Channels between switching offices used to transmit signaling information independent of the subscribers' communication paths or transmission channels.

Complement (of cable)

A group of conductors of the same general type (e.g., quadded, paired) within a single cable sheath.

Complex

All groups of operator positions, wherever located, associated with the same call distribution and/or stored program control unit.

Concentrating Unit (TWX)

An arrangement of central office equipment wherein traffic over a number of TWX circuits is automatically concentrated onto a lesser number of circuits between the concentrating unit and its associated TWX switching office.

Concentration Equipment

Central office equipment whose function is to concentrate traffic from subscriber lines onto a lesser number of circuits between the remotely located concentration equipment and the

serving central office concentration equipment. This concentration equipment is connected to the serving central office line equipment.

Connection—Minute

The product of (a) the number of messages and, (b) the average minutes of connection per message.

Conversation—Minute

The product of (a) the number of messages and, (b) the average minutes of conversation per message.

Conversation-Minute-Miles

The product of (a) the number of messages, (b) the average minutes of conversation per message and (c) the average route miles of circuits involved.

Cost

The cost of property owned by the Telephone Company whose property is to be apportioned among the operations. This term applies either to property costs recorded on the books of the company or property costs determined by other evaluation methods.

Current Billing

The combined amount of charges billed, excluding arrears.

Customer Dialed Charge Traffic

Traffic which is both (a) handled to completion through pulses generated by the customer and (b) for which either a message unit change, bulk charge or message toll charge is except for that traffic recorded by means of message registers.

Customer Premises Equipment

Items of telecommunications terminal equipment in Accounts 2310 referred to as CPE in § 64.702 of the Federal Communication Commission's Rules adopted in the *Second Computer Inquiry* such as telephone instruments, data sets, dialers and other supplemental equipment, and PBX's which are provided by common carriers and located on customer premises and inventory included in these accounts to be used for such purposes. Excluded from this classification are similar items of equipment located on telephone company premises and used by the company in the normal course of business as well as over voltage protection equipment, customer premises wiring, coin operated public or pay telephones, multiplexing equipment to deliver multiple channels to the customer, mobile radio equipment and transmit earth stations.

Customer Premises Wire

The segment of wiring from the customer's side of the protector to the customer premises equipment.

DSA Board

A local dial office switchboard at which are handled assistance calls, intercepted calls and calls from miscellaneous lines and trunks. It may also be employed for handling certain toll calls.

DSB Board

A switchboard of a dial system for completing incoming calls received from manual offices.

Data Processing Equipment

Office equipment such as that using punched cards, punched tape, magnetic or other comparable storage media as an operating vehicle for recording and processing information. Includes mechines for transcribing raw data into punched cards, etc., but does not include such items as key-operated, manually or electrically driven adding, calculating, bookkeeping or billing machines, typewriters or similar equipment.

Dial Switching Equipment

Switching equipment actuated by electrical impulses generated by a dail or key pulsing arrangement.

Equal Access Costs

Include only initial incremental presubscription costs and initial incremental expenditures for hardware and software related directly to the provision of equal access which would not be required to upgrade the switching capabilities of the office involved absent the provisions of equal access.

Equivalent Gauge

A standard cross section of cable conductors for use in equating the metallic content of cable conductors of all gauge to a common base.

Equivalent Miles of 104 Wire

The basic units employed in the allocation of pole lines costs for determining the relative use made of poles by aerial cables and by aerial wire conductors of various sizes. This unit reflects the relative loads of such cable and wire carried on poles.

Equivalent Pair Miles

The product of sheath miles and the number of equivalent gauge pairs of conductors in a cable.

Equivalent Sheath Miles

The product of (a) the length of a section of cable in miles (sheath miles) and (b) the ratio of the metallic content applicable to a particular group of conductors in the cable (e.g., conductors assigned to a category) to the metallic content of all conductors in the cable.

Exchange Transmission Plant

This is a combination of (a) exchange cable and wire facilties (b) exchange central office circuit equipment, including associated land and buildings and (c) information origination/termination equipment which forms a complete channel.

Holding Time

The time in which an item of telephone plant is in actual use either by a customer or an operator. For example, on a completed telephone call, holding time includes conversation time as well as other time in use. At local dial offices any measured minutes which result from other than customer attempts to place calls (as evidenced by the dialing of at least one digit) are not treated as holding time.

Host Central Office

An electronic analog or digital base switching unit containing the central call processing functions which service the host office and its remote locations.

Information Origination/Termination Equipment

Equipment used to input into or receive output from the telecommunications network.

Interexchange Channel

A circuit which is included in the interexchange transmission equipment.

Interexchange Transmission Equipment

The combination of (a) interexchange cable and wire facilities, (b) interexchange circuit equipment and, (c) associated land and buildings.

Interlocal Trunk

A circuit between two local central office units, either manual or dial. Interlocal trunks may be used for either exchange or toll traffic or both.

Intertoll Circuits

Circuits between toll centers and circuits between a toll center and a tandem system in a different toll center area.

Local Channel

The portion of a private line circuit which is included in the exchange transmission plant. However, common usage of this term usually excludes information origination/termination equipment.

Local Office

A central office serving primarily as a place of termination for subscriber lines and for providing telephone service to the subscribers on these lines.

Long Haul Toll Traffic

A general term applied to message toll traffic between distant points. In common usage, this term is ordinarily applied to message toll traffic points more than 20 to 50 miles apart.

Loop

A pair of wires, or its equivalent, between a customer's station and the central office from which the station is served.

Message

A completed call, i.e., a communication in which a conversation or exchange of information took place between the calling and called parties.

Message Service or Message Toll Service

Switched service furnished to the general public (as distinguished from private line service). Except as otherwise provided, this includes exchange switched services and all switched services provided by interexchange carriers and completed by a local telephone company's access services, e.g., MTS, WATS, Execunet, open-end FX and CCSA/ONALs.

Message Units

Unit of measurement used for charging for measured message telephone exchange traffic within a specified area.

Metropolitan Service Area

The area around and including a relatively large city and in which substantially all of the message telephone traffic between the city and the suburban points within the area is classified as exchange in one or both directions.

Minutes-of-Use

A unit of measurement expressed as either holding time or conversation time.

Minutes-of-Use Miles

The product of (a) the number of minutes-of-use and (b) the average route miles of circuits involved.

Multi-Center Exchange

An exchange area in which are located two or more local central office buildings or wire centers.

Operations

The term denoting the general classifications of services rendered to the public for which separate tariffs are filed, namely exchange, state toll and interstate toll.

Operator Trunks

A general term, ordinarily applied to trunks between manually operated switchboard positions and local dial central offices in the same wire center.

Private Line Service

A service for communications between specified locations for a continuous period or for regularly recurring periods at stated hours.

Remote Access Line

An access line (e.g., for WATS or TWX service) between a subscriber's premises in one toll rate center and a serving central office located in a different toll rate center.

Remote Line Location

A remotely located subscriber line access unit which is normally dependent upon the central processor of the host office for call processing functions.

Remote Trunk Arrangement (RTA)

Arrangement that permits the extension of TSPS functions to remote locations.

Reservation

That amount or quantity of property kept or set apart for a specific use.

Reserved

Kept or set apart for a specific use.

Separations

The process by which telecommunication property costs, revenues, expenses, taxes and reserves are apportioned among the operations.

Service Observing Unit

A unit of work measurement which is used as the common denominator to express the relative time required for handling the various work functions at service observing boards.

Sheath Miles

The actual length of cable in route miles.

Short Haul Toll Traffic

A general term applied to message toll traffic between nearby points. In common usage, this term is ordinarily applied to message toll traffic between points less than 20 to 50 miles apart.

Special Services

All services other than message telephones, e.g., teletypewriter exchange service (TWX), private line services.

Station-to-Station Basis

The term applied to the basis of toll rate making which contemplates that the message toll service charge (telephone or TWX) covers the use made of all facilities between the originating station and the terminating station, including the stations, and the services rendered in connection therewith.

Study Area

Study area boundaries shall be frozen as they are on November 15, 1984.

Subscriber Line or Exchange Line

A communication channel between a telephone station, PBX or TWX station and the central office which serves it.

Subtributary Office

A class of tributary office which does not have direct access to its toll center, but which is connected to its toll center office by means of circuits which are switched through to the toll center at another tributary office.

Tandem Area

The general areas served by the local offices having direct trunks to or from the tandem office. This area may consist of one or more communities or may include only a portion of a relatively large city.

Tandem Circuit or Trunk

A general classification of circuits or trunks between a tandem central office unit and any other central office or switchboard.

Tandem Connection

A call switched at a tandem office.

Tandem Office

A central office unit used primarily as an intermediate switching point for traffic between local central offices within the tandem area. Where qualified by a modifying expression, or other explanation, this term may be applied to an office employed for both the interconnection of local central offices within the tandem area and for the interconnection of these local offices with other central offices, e.g., long haul tandem office.

Toll Center

An office (or group of offices) within a city which generally handles the originating and incoming toll traffic for that city to or from other toll center areas and which handles through switched traffic. The toll center normally handles the inward toll traffic for its tributary exchanges and, in general, either handles the outward

traffic originating at its tributaries or serves as the outlet to interexchange circuits for outward traffic ticketed and timed at its tributaries. Toll centers are listed as such in the Toll Rate and Route Guide.

Toll Center Area

The areas served by a toll center, including the toll center city and the communities served by tributaries of the toll center.

Toll Center Toll Office

A toll office (as contrasted to a local office) in a toll center city.

Toll Circuit

A general term applied to interexchange trunks used primarily for toll traffic.

Toll Connecting Trunk

A general classification of trunks carrying toll traffic and ordinarily extending between a local office and a toll office, except trunks classified as tributary circuits. Examples of toll connecting trunks include toll switching trunks, recording trunks and recording-completing trunks.

Toll Office

A central office used primarily for supervising and switching toll traffic.

Traffic Over First Routes

A term applied to the routing of traffic and denoting routing via principal route for traffic between any two points as distinguished from alternate routes for such traffic.

Operator System

A stored program electronic system associated with one or more toll switching systems which provides centralized traffic service position functions for several local offices at one location.

Tributary Circuit

A circuit between a tributary office and a toll switchboard or intertoll dialing equipment in a toll center city.

Tributary Office

A local office which is located outside the exchange in which a toll center is located, which has a different rate center from its toll center and which usually tickets and times only a part of its originating toll traffic, but which may ticket or time all or none, of such traffic. The toll center handles all outward traffic not ticketed and timed at the tributary and normally switches all inward toll traffic from outside the tributary's toll center to the tributary. Tributary offices are indicated as such in the Toll Rate and Route Guide.

Trunks

Circuit between switchboards or other switching equipment, as distinguished from circuits which extend between central office switching equipment and information origination/termination equipment.

TSPS Complex

All groups of operator positions, wherever located, associated with the same TSPS stored program control units.

TWX:

Teletypewriter Exchange Service.

TWX Connection

A completed TWX call, i.e., a call on which a TWX communication was passed between the calling and called stations.

TWX Connection-Minute-Miles

The product of (a) the number of TWX connections, (b) the average minutes per TWX connection and (c) the average route miles of circuits involved.

TWX Switching Plant Trunks

Interexchange circuits, excluding remote access lines, which handle 100 word per minute TWX traffic only.

Weighted Standard Work Second

A measurement of traffic operating work which is used to express the relative time required to handle the various kinds of calls or work functions, and which is weighted to reflect appropriate degrees of waiting to serve time.

Wide Area Telephone Service WATS

A toll service offering for customer dial type telecommunications between a given customer station and stations within specified geographic rate areas employing a single access line between the customer location and the serving central office. Each access line may be arranged for either outward (OUT-WATS) or inward (IN-WATS) service or both.

Wideband Channel

A communication channel of a bandwidth equivalent to twelve or more voice grade channels.

Working Loop

A revenue producing pair of wires, or its equivalent, between a customer's station and the central office from which the station is served.

PART 65—[AMENDED]

2. The authority citation for Part 65 continues to read as follows:

Authority: Interstate Rate of Return Prescription Procedures and Methodologies, 47 U.S.C. 154, 201, 202, 203, 205, 218, 403.

3. Section 65.101 is amended by revising paragraph (a)(2) to read as follows:

§ 65.101 Petitions for exclusion from group treatment and individual treatment in determining authorized return for interstate exchange access service.

(a) * * *

(2) Financial statements of jurisdictionally separated revenues, expenses, net assets, and rate base (See Part 36 of the Commission's Rules, 47 CFR 36.1, *et seq.*);

* * * * *

PART 67—[REMOVED]

4. Part 67 is removed in its entirety.

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 69

[CC Docket No. 87-113; FCC 87-135]

Access Charges; Jurisdictional Separations Procedures

AGENCY: Federal Communications Commission.

ACTION: Proposed rule.

SUMMARY: The FCC proposes to amend Part 69 of its Rules, Access Charges, to conform it with Part 36, Jurisdictional Separations Procedures. The proposal would also make revisions to Part 69 to limit the annual access tariff filings to rate level changes. This proposal is prompted by the FCC's recent adoption of a new Uniform System of Accounts (Part 32), new jurisdictional Separations Procedures (Part 36), and problems with prior annual access tariff filings. Because of interrelationships between the various rules, the rules must be consistent so as to produce consistent data from the carriers.

DATES: Comments must be submitted on or before June 5, 1987 and reply comments on or before June 22, 1987.

ADDRESS: Federal Communications Commission, Washington, DC 20554.

FOR FURTHER INFORMATION CONTACT: Michael Wilson, Common Carrier Bureau, Audits Branch, Washington, DC 20554, (202) 632-7500.

SUPPLEMENTARY INFORMATION: This is a summary of the Commission's Notice of Proposed Rulemaking in CC Docket No. 87-113, Adopted April 16, 1987, and Released May 1, 1987. The full text of this Commission decision and the proposed amended rules are available for inspection and copying during normal business hours in the FCC Dockets Branch (Room 230), 1919 M Street, NW., Washington, DC. The complete text of this decision and proposed amended rules may also be purchased from the Commission's copy contractor, International Transcription Service, 2100 M Street, NW., Suite 140, Washington, DC 20037, (202) 857-3800.

Summary of Notice of Proposed Rulemaking

1. By this notice the FCC sought comments on proposed amendments to Part 69 of the Commissions Rules and Regulations, 47 CFR Part 69, intended to conform these Access Charge Rules to our new Part 36, Jurisdictional Separations Procedures, 47 CFR Part 36, which were adopted in a companion Order. It also proposed some minor amendments to Part 69 to facilitate annual access tariff filings. These new separations procedures were recently recommended to the Commission by the Joint Boards in CC Docket Nos. 78-72, 80-286 and 86-297, and are intended to conform the Separations Rules to the recently revised Accounting Rules (Part 32) as well as make other changes in separations procedures including those relating to central office equipment, revenue accounting expenses, subscriber line charges, high cost assistance and lifeline assistance. Finally, because of the interrelationship between Parts 36 and 69, it is necessary to revise the Access Charge Rules to assure comparability.

2. The primary purpose of this proceeding is to seek comments on the proposed amendments and to make the changes necessary to conform Part 69 to the revised Separations Manual and the revised USOA. The Commission's goal is to adopt a revised Part 69 manual in sufficient time to allow the carriers to implement the new rules in their annual 1988 access tariff filings.

3. The Commission also requested that interested parties comment on any significant revenue requirement and rate impact that would result from the implementation of the proposed rules. It requested that local exchange carriers identify any revenue requirement shifts that may result from implementation of the proposed Part 69 procedures. The Commission's staff has developed a model based on Part 69 which should be used to identify any revenue requirement shifts. Copies of the model will be made available to parties upon a request made to Michael Wilson of the Commission's staff at 2000 L Street, NW., Room 257, Washington, DC 20554, (202) 632-7500. The revenue requirement shift results developed from the model should be submitted in accordance with comments procedures discussed below.

4. The Commission encouraged interested persons to comment on its proposed revision of expense apportionments which includes a new formula for the apportionment of tax expenses.

5. The Commission also requested that interested parties comment on a few miscellaneous changes that were proposed to address problems that have arisen with respect to prior annual access tariff filings. The Commission's desire is to remedy these problems before the filing of the 1988 annual access tariffs.

Comments

6. Pursuant to applicable procedures set forth in §§ 1.415 and 1.419 of the Commission's Rules, 47 CFR 1.415 and 1.419, interested parties may file comments and data on or before June 5, 1987, and reply comments on or before June 22, 1987. All relevant and timely comments will be considered by the Commission before final action is taken in this proceeding.

Regulatory Flexibility Analysis

7. We certify that the Regulatory Flexibility Act [1] is not applicable to the rule changes we are proposing in this proceeding. In accordance with the provisions of section 605 of the Act, a copy of this certification will be sent to the Chief Counsel for Advocacy of the Small Business Administration at the time of publication of this *Notice of Proposed Rulemaking* in the **Federal Register.** As part of our analysis of the proposal described in this *Notice of Proposed Rulemaking*, however, this Commission has considered the impact of the proposal on small telephone companies, *i.e.*, those serving 50,000 or fewer access lines.[2] Our proposed amendments to Part 69 will have a beneficial economic impact on all such carriers because those amendments will make the access charge rules consistent with separations procedures, enabling all local exchange carriers to recover rates based on greatly simplified separations procedures.

Paperwork Reduction Act

8. The Commission has analyzed the proposal contained herein with respect to the Paperwork Reduction Act of 1980 and tentatively concluded that it will not, if adopted, impose new or modified information collection requirements on the public.

Ex Parte Contacts

9. For purposes of this non-restricted notice and comment rulemaking proceeding, members of the public are advised that *ex parte* contacts are permitted from the time the Commission adopts a notice of proposed rulemaking until the time a public notice is issued stating that a substantive disposition of the matter is to be considered at a

[1] 5 U.S.C. section 603.

[2] Because of the nature of local exchange and access service, this Commission concluded that small telephone companies are dominant in their fields of operation and therefore are not small entities as defined by the Regulatory Flexibility Act. *See* MTS and WATS Market Structure, 93 FCC 2d 241, 338-89 (1983). Thus, this Commission is not required by the terms of that Act to apply the formal procedures set forth herein. We are nevertheless committed to reducing the regulatory burdens on small telephone companies whenever possible consistent with our other public interest responsibilities. Accordingly, we have chosen to utilize, on an informal basis, appropriate Regulatory Flexibility Act procedures to analyze the effect of proposed regulations on small telephone companies.

forthcoming meeting or until a final order disposing of the matter is adopted by the Commission, whichever is earlier. A summary of the Commission's procedures governing *ex parte* presentations in informal rulemaking is available from the Commission's Consumer Assistance Office, FCC, Washington, DC 20554.

Ordering Clauses

10. *Accordingly, It Is Ordered,* that pursuant to the provision of sections 4(i) 218, 219, and 220 of the Commissions Act of 1934, as amended, 47 U.S.C. 154(i), 218, 219 and 220, there is *Hereby Instituted* a notice of proposed rulemaking to amend Part 69, Interstate Access Charges.

11. *It Is Further Ordered,* that all interested persons *May File* comments on the specific proposals discussed in this Notice on or before June 5, 1987. Reply comments shall be filed on or before June 22, 1987.

List of Subjects in 47 CFR Part 69

Communications common carrier, Telephone, Access charges, Reporting and recordkeeping requirements.

Federal Communications Commission.

William J. Tricarico,

Secretary.

[FR Doc. 87-9584 Filed 5-5-87; 8:45 am]

BILLING CODE 6712-01-M

federal register

Wednesday
May 6, 1987

Part V

Department of Health and Human Services

Office of Human Development Services

Administration for Children, Youth and Families Head Start Program; Announcement of Financial Assistance to Expand Enrollment in Current Head Start Projects; Notice

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Office of Human Development Services

[Program Announcement No. 13600-871]

Administration for Children, Youth and Families; Head Start Program

AGENCY: Administration for Children, Youth, and Families (ACYF), Office of Human Development Services (OHDS), Department of Health and Human Services (HHS).

ACTION: Announcement of financial assistance to expand enrollment in current Head Start projects.

SUMMARY: The Administration for Children, Youth and Families announces that competing applications will be accepted to expand enrollment in current Head Start projects.

DATE: The closing date for receipt of applications is June 22, 1987. Application Receipt Point: Head Start Expansion, Office of Human Development Services, Grants and Contracts Management Division, Room 341F, Hubert H. Humphrey Building, 200 Independence Avenue, SW., Washington, DC 20201.

FOR FURTHER INFORMATION CONTACT: Robert Foster (202) 755-8208.

SUPPLEMENTARY INFORMATION:

Part I. General Information

A. Scope of This Program Announcement

This announcement solicits applications from current Head Start grantees that meet the eligibility criteria discussed below and wish to compete for $5,000,000 in grants that are available for Head Start expansion in Fiscal Year 1987. It is expected that this expansion effort will result in an additional 2,140 children being served in those areas of the country with the highest need for Head Start services.

B. Program Purpose

Head Start is a national program providing comprehensive developmental services primarily to low-income preschool children and their families. To help enrolled children to achieve their full potential, Head Start programs provide comprehensive health, nutritional, educational, social and other services. In addition, Head Start programs are required to provide for the direct participation of parents of enrolled children in the development, conduct, and direction of local programs. Head Start currently serves 451,700 children through a network of more than 1,300 grantees.

While Head Start is targeted primarily on children whose families have incomes below the poverty line or are eligible for public assistance, OHDS' policy permits up to 10 percent of the Head Start children in local programs to be from families who do not meet these low income criteria. The Head Start statute also requires that a minimum of 10 percent of enrollment opportunities in each State be made available to handicapped children. Such children are expected to be enrolled in the full range of Head Start services and activities in a mainstream setting with their non-handicapped peers, and to receive needed special education and related services.

C. Statutory and Regulatory Authority

The Head Start program is authorized by the Head Start Act, 42 U.S.C. 9801 *et seq.*

The relevant regulations are:

- 45 CFR Part 1301, Head Start grants administration.
- 45 CFR Part 1302, Policies and procedures for selection, initial funding, and refunding of Head Start grantees, and for selection of replacement grantees.
- 45 CFR Part 1303, Procedures for appeals for Head Start delegate agencies, and for opportunities to show cause and hearings for Head Start grantees.
- 45 CFR Part 1304, Program performance standards for operation of Head Start programs by grantees and delegate agencies.
- 45 CFR Part 1305, Eligibility requirements and limitations for enrollment in Head Start.
- 45 CFR Part 74, Administration of grants.

D. Available Funds

In Fiscal Year 1987, Head Start plans to use $5,000,000 to expand Head Start enrollment. Assuming that acceptable applications are received, ACYF expects to award all of these funds to successful applicants responding to this announcement. These funds will be made available nation-wide as they are part of the Secretary's discretionary reserve and not tied to the State allocation formula contained in the Head Start Act. There may be additional funds made available next year to further expand Head Start enrollment. Should this occur, applicants will not need to submit another application as decisions about which programs will receive funds in Fiscal Year 1988 will be made based on the results of the competitive expansion process discussed in this announcement.

E. Eligible Applicants

Only current Head Start grantees which are in at least one of the three categories listed below can apply for funding under this announcement.

Category 1

Any grantee currently providing Head Start services in a county with at least 2,000 Head Start eligible children, ages 3-5, in which more than 80% of the eligible children are unserved by a Head Start program may apply to expand Head Start services in that county. A list of the counties which meet the above requirements is included at Appendix A of this announcement. In addition to those counties listed at Appendix A, Head Start grantees in other counties may apply for increased funding if the grantee has demographic data which indicate it is currently providing services in a county which has 2,000 or more Head Start eligible children, ages 3-5, and that the county is more than 80% unserved.

Category 2

Any Head Start grantee currently providing Head Start services in a county which is contiguous to a county in which there is no Head Start program may apply to open a Head Start program in the unserved county, if the grantee has demographic data which indicate that at least 300 Head Start eligible children, ages 3-5 reside in the unserved county.

Category 3

Any grantee which is currently serving migrant Head Start children, as determined by the fact that it is currently operating a Head Start program and is funded by the Migrant Programs Branch, National Head Start Bureau, may apply to increase the number of migrant children it currently serves.

Migrant grantees may apply only under Category 3. Other grantees may apply under Categories 1 and/or 2. Applicants applying under both Categories 1 and 2 must submit two separate applications. Except for compelling reasons, to be explained by the applicant, Head Start does not expect to fund grantees which are establishing programs in unserved counties for an enrollment level of less than 60 children.

Indian grantees are not eligible to apply for expansion funds under this announcement.

Part II. Specific Responsibilities

A. Responsibilities of the Head Start grantees

In carrying out the proposed expansion of Head Start services under this announcement grantees who are funded will be expected to:

1. Select appropriate service areas which will assure the provision of service to those families and children who have the most serious need for Head Start services.

2. Give priority to serving children for whom public school or pre-kindergarten comprehensive developmental services are not available. For example, it is not expected that applicants would propose serving five-year-old children in communities where kindergarten is available for these children.

3. Adhere to Head Start regulations concerning program options for the standard Head Start model, variations in center attendance, double sessions, home-based models, and locally designed options. (See Appendix A to the Head Start Performance Standards—45 CFR Part 1304, options 1–5.)

4. For applicants proposing a center-based program, provide a minimum of three and a half hours of service per day, 4 or 5 days per week, for 128 days per year, during a minimum of 32 weeks of operation.

For applicants proposing a home-based option, provide a minimum of one 90 minute home visit each week and two three and a half hour socialization experiences each month during a minimum of 32 weeks of operation. These minimum days of operation are exclusive of holidays and vacations.

5. Provide for the involvement of parents and other community members and organizations in the development and planning of the application.

6. Accommodate an increase in enrollment in a timely and efficient manner. This would include such things as the availability of classroom space which meets all licensing requirements, the ability to provide adequate transportation, the ability to recruit eligible children and families, and the applicant's current ability to assure full enrollment in its program.

7. Hire classroom teachers who have received appropriate training or have experience in early childhood education and provide opportunities for employment of residents from the service area.

8. Propose reasonable start-up costs and provide quality on-going services at a reasonable cost.

B. Recipient Share of the Project

Section 640(b) of the Head Start Act requires that at least 20 percent of the total cost of Head Start projects come from sources other than the Federal government. The non-Federal share may be in cash or in-kind, fairly evaluated, including facilities, equipment, or volunteer services.

Part III—Criteria for Review and Evaluation of the Grant Application

In considering how the grantee will carry out the responsibilities addressed under Part II of this announcement, competing applications for financial assistance will be reviewed and evaluated against the following criteria:

A. Objectives and Need for Assistance (25 points)

The extent to which the applicant demonstrates the need for this assistance, stating the objectives of the program the applicant intends to operate. Applicants should pinpoint any relevant physical, economic, social, or other community problems related to the design and implementation of a Head Start program. Applicants should indicate the type and results of planning studies and community surveys that have been conducted to determine the scope of the need for comprehensive services for children of low-income families. Supporting documentation or testimonies from other concerned community organizations may be used. Applicants must assure that the proposed program is consistent with the needs of the participants and the community proposed to be served.

B. Results or Benefits Expected (25 points)

In response to the community needs identified above, applicants should indicate the number of children and type of participants to be served and how the participants and the community will benefit from the services provided. All proposed programs must be consistent with Head Start goals and the required performance standards for local Head Start programs.

C. Approach (25 points)

In accordance with applicable performance standards and ACYF policies, the applicant should outline a plan of action pertaining to the increased number of children to be served and the scope and detail of how the proposed program will be implemented. Applicants should cite factors which might accelerate or decelerate implementation and discuss the reasons for proposing one option as opposed to others. Applicants should describe any unusual features of the project, such as social or educational innovations or reductions in cost and also should address parent and community participation.

D. Geographic Location (15 points)

Applicants should attach a map of the county or counties proposed to be served which shows the neighborhoods, communities, or other areas from which children will be recruited. Applicants should indicate on the map the location of the grantee, delegate agencies, and all centers.

E. Budget Appropriateness and Reasonableness (10 points)

Applicants should demonstrate that the project's costs are reasonable in view of the anticipated results and in comparison to the applicant's current costs.

Part IV. The Application Process

A. Availability of Forms

Agencies and organizations interested in applying for funds may request application kits from Robert Foster, Head Start Bureau, Administration for Children, Youth and Families, P.O. Box 1182, Washington, DC 20013, ((202) 755–8208).

In order to be considered for a Head Start grant, an application must be submitted on the standard 424 form which has been approved by the Office of Management and Budget (OMB) under Control Number 0348–0006.

Each application must be signed by an individual authorized to act for the applicant agency and to assume responsibility for the obligations imposed by the terms and conditions of the grant award. Applications must be prepared in accordance with the guidance provided in this announcement and the instructions in the application kit.

B. Application Submission

One signed original and two copies of the grant application, including all attachments, are required. Completed applications must be sent to: Head Start Expansion, Office of Human Development Services, Grants and Contracts Management Division, Room 341F, Hubert H. Humphrey Building, 200 Independence Avenue, SW., Washington, DC 20201. The program announcement number (13600–871) must be identified clearly on the application.

C. Application Consideration

Applicants will be scored against the evaluation criteria outlined in Section III. The review will be conducted in

Washington, DC. Reviewers will be persons knowledgeable about Head Start and early childhood education and development, including parents of Head Start children, Federal staff, and other experts, such as university staff or staff of child development projects.

The results of the competitive review will be taken into consideration by the Associate Commissioner, Head Start Bureau, who, in consultation with ACYF regional officials, will recommend projects to be funded. The Commissioner of ACYF will make the final selection of applicants to be funded. Applications may be funded in whole or in part depending on relative need, applicant ranking, and funds available.

The Commissioner may elect not to fund any applicants that have management, fiscal, or other problems and situations which make it unlikely that they would be able to provide effective Head Start services. For example, this might apply to an applicant which has had large, chronic balances of unspent funds due to poor management, or one that has failed to serve children in agreed upon numbers. Also, the Commissioner may decide not to fund projects which would require unreasonably large initial start-up costs for facilities or equipment. In addition, ACYF will assess the quality of programs selected for increased funding, using the Program Information Report, on-site reviews, cost study, etc., prior to making final funding decisions. Programs experiencing problems in providing quality services may not be chosen to receive expansion funding.

Successful applicants will be notified through the issuance of a Financial Assistance Award which sets forth the amount of funds granted, the terms and conditions of the grant, the effective date of the grant, the budget period for which support is given, the non-Federal share to be provided, and the total project period for which support is provided.

D. Closing Date for Receipt of Applications

The closing date for receipt of applications is June 22, 1987.

1. Mailed Applications

Applications shall be considered as meeting the deadline if they are either:

a. Received on or before the deadline date at the HDS Grants and Contracts Management Office, or

b. Sent on or before the deadline date, and received by the granting agency in time for them to be considered during the competitive review and evaluation process. (Applicants must be cautioned to request a legibly dated U.S. Postal Service postmark or to obtain a legibly dated receipt from a commercial carrier or U.S. Postal Service. Private metered postmarks shall not be acceptable as proof of timely mailing.)

2. Applications submitted by other means .

Applications which are not submitted in accordance with the above criteria shall be considered as meeting the deadline only if they are physically received before close of business on or before the deadline date. Hand delivered applications will be accepted at the HDS Grants and Contracts Management Office during the normal working hours of 8:30 a.m. to 5:00 p.m., Monday through Friday.

3. Late Applications

Applications which do not meet one of these criteria are considered late applications and will not be considered in the current competition.

4. Extension of deadline

The Head Start Bureau may extend the deadline for all applicants because of acts of God such as floods, hurricanes, etc., or when there is widespread disruption of the mail. However, if the granting agency does not extend the deadline for all applicants, it may not waive or extend the deadline for any applicant.

E. Paperwork Reduction Act of 1980

Under the Paperwork Reduction Act of 1980, Pub. L. 96–511, the Department is required to submit to the Office of Management and Budget (OMB) for review and approval any reporting and recordkeeping requirements in regulations, including program announcements. This program announcement does not contain information collection requirements beyond those approved for HDS grant applications under OMB Control Number 0980–0016.

F. Executive Order 12372—Notification Process

This program is covered under Excutive Order (E.O.) 12372, "Intergovernmental Review of Federal Programs," and 45 CFR Part 100, "Intergovernmental Review of Department of Health and Human Services Programs and Activities." Under the Order, States may design their own processes for reviewing and commenting on proposed Federal assistance under covered programs. All States and territories except Alaska, Idaho, Nebraska, American Samoa, and Palau have elected to participate in the Executive Order process and have established Single Points of Contact (SPOCs). Applicants from these areas need take no action regarding E.O. 12372. Otherwise, applicants should contact their SPOC as soon as possible to alert them of the prospective application and receive any necessary instructions. Applicants must submit any required material to the SPOC as early as possible so that the program office can obtain and review SPOC comments as part of the award process. It is imperative that the applicant submit all required materials, if any, to the SPOC and indicate the date of this submittal (or date of contact if no submittal is required) on the SF 424, item 22a.

SPOCs have 60 days from the application deadline date to comment on applications submitted under this announcement. Therefore, the comment period for State processes will end on August 19, 1987, to allow time for HDS to review, consider, and attempt to accommodate SPOC input. SPOCs are encouraged to eliminate the submission of routine endorsements as official recommendations. Additionally, SPOCs are requested to clearly differentiate between mere advisory comments and those official State process recommendations which they intend to trigger the "accommodate or explain" rule.

When comments are submitted directly to OHDS, they should be addressed to: Department of Health and Human Services, Office of Human Development Services, Grants and Contracts Management Division, 200 Independence Ave., SW., Room 341F, Hubert H. Humphrey Building, Washington, DC 20201. HDS will notify the State of any application received which has no indication that the State process has had an opportunity for review.

A list of single points of contact for each State and territory is included at Appendix B at the end of this announcement.

(Catalog of Federal Domestic Assistance Program Number 13.600, Project Head Start.)

Dated: April 6, 1987.

Dodie Livingston,

Commissioner, Administration for Children, Youth and Families.

Approved: April 21, 1987.

Jean K. Elder,

Assistant Secretary for Human Development Services-Designate.

Appendix A—List of Counties Eligible To Receive Head Start Expansion Funds

Alabama:

Jefferson, Madison, Mobile
Arizona:
Maricopa, Pima
California:
Alameda, Contra Costa, Fresno, Kern, Los Angeles, Monterey, Orange, Sacramento, San Bernardino, San Diego, San Joaquin, Santa Clara, Stanislaus, Tulare, Ventura
Colorado:
El Paso
Delaware:
New Castle
Florida:
Broward, Duval, Escambia, Orange, Palm Beach, Polk
Georgia:
Chatham, De Kalb, Fulton, Muscogee, Richmond
Hawaii:
Honolulu
Indiana:
Lake, Marion
Louisiana:
Caddo, Jefferson, Orleans, Ouachita
Maryland:
Prince Georges, Baltimore City
Mass.:
Essex, Hampden
Michigan:
Berrien, Saginaw
Minnesota:
Hennepin, Ramsey
Missouri:
Jackson, St. Louis County
Nevada:
Clark
New Jersey:
Camden, Hudson, Monmouth, Passaic, Union
New Mexico:
Bernalillo
New York:
Bronx, Erie, Kings, Monroe, Nassau, New York, Onondaga, Queens, Suffolk
N. Carolina:
Cumberland, Mecklenburg
Ohio:
Franklin, Mahoning, Montgomery, Stark
Oklahoma:
Oklahoma, Tulsa
Oregon:
Multnomah
Penn.:
Delaware, Lancaster, Philadelphia
S. Carolina:
Greenville, Richland
Tennessee:
Davidson, Knox, Shelby
Texas:
Bell, Bexar, Cameron, Dallas, El Paso, Harris, Hidalgo, Nueces, Tarrant, Webb
Utah:
Salt Lake, Utah
Virginia:
Norfolk (city), Richmond (city)
Washington:
Pierce, Spokane, Yakima
Wisconsin:
Milwaukee

The following municipalities in Puerto Rico are also eligible: Aguadilla, Arecibo, Bayamon, Caguas, Carolina, Guayama, Humacao, Juana Diaz, Mayaguez, Ponce, Toa Baja, Vega Baja.

Appendix B—Executive Order 12372—State Single Points of Contact

Alabama:
Mrs. Donna J. Snowden, SPOC
Alabama State Clearinghouse
Alabama Department of Economic and Community Affairs
3465 Norman Bridge Road
Post Office Box 2939
Montgomery, Alabama 36105–0939
Tel. (205) 284–8905
Alaska:
None
Arizona:
Department of Commerce
State of Arizona

Note: Correspondence & questions concerning this State's E.O. 12372 process should be directed to:

Janice Dunn
ATTN: Arizona State Clearinghouse
1700 West Washington, Fourth Floor
Phoenix, Arizona 85007
Tel. (602) 255–5004

Arkansas:
Joe Gillesbie Manager
State Clearinghouse
Office of Intergovernmental Services
Department of Finance and Administration
P.O. Box 3278
Little Rock, Arkansas 72203
Tel. (501) 371–1074
California:
Office of Planning and Research
1400 Tenth Street
Sacramento, California 95814
Tel. (916) 323–7480
Colorado:
State Clearinghouse
Division of Local Government
1313 Sherman Street, Rm. 520
Denver, Colorado 80203
Tel. (303) 866–2156
Connecticut:
Gary E. King, Under Secretary
Comprehensive Planning Division
Office of Policy and Management
Hartford, Connecticut 06106–4459

Note: Correspondence & questions concerning this State's E.O. 12372 process should be directed to:

Intergovernmental Review Coordinator
Comprehensive Planning Division
Office of Policy and Management
80 Washington Street
Hartford, Connecticut 06106–4459
Tel. (203) 566–3410

Delaware:
Executive Department
Thomas Collins Building
Dover, Delaware 19903
Attn: Francine Booth
Tel. (302) 736–4204
Florida:
Ron Fahs
Executive Office of the Governor
Office of Planning and Budgeting
The Capitol
Tallahassee, Florida 32301
Tel. (904) 488–8114
Georgia:
Charles H. Badger, Administrator
Georgia State Clearinghouse
270 Washington Street, SW., Room 608
Atlanta, Georgia 30334
Tel. (404) 656–3855
Hawaii:
Roger A. Ulveling, Director, Department of Planning and Economic Development, P.O. Box 2359, Honolulu, Hawaii 96804
For Information Contact: Hawaii State Clearinghouse, Tel. (808) 548–3016 or 548–3085
Idaho:
None
Illinois:
Tom Berkshire, Office of the Governor, State of Illinois, Springfield, Illinois 62706, Tel. (217) 782–8639
Indiana:
Ms. Peggy Boehm, Deputy Director, State Budget Agency, 212 State House, Indianapolis, Indiana 46204, Tel. (317) 232–5604
Iowa:
A. Thomas Wallace, Iowa Dept. of Economic Development, Division of Community Progress, 200 East Grand Avenue, Tel. (515) 281–3864
Kansas:
Martin Kennedy, Intergovernmental Liaison, Department of Administration, Division of Budget, Room 152–E, State Capitol Building, Topeka, Kansas 66612, Tel. (913) 296–2436
Kentucky:
Bob Leonard, Kentucky State Clearinghouse, 2nd Floor, Capital Plaza Tower, Frankfort, Kentucky 40601, Tel. (502) 564–2382
Louisiana:
Colby S. La Place, Assistant Secretary, Dept. of Urban & Community Affairs, Office of State Clearinghouse, P.O. Box 94455, Capitol Station, Baton Rouge, Louisiana 70804, Tel. (504) 342–9790
Maine:
State Planning Office, Attn: Intergovernmental Review Process/ Hal Kimbal, State House Station #38, Augusta, Maine 04333, Tel.

(207) 289–3154

Maryland:
Guy W. Hager, Director, Maryland State Clearinghouse, for Intergovernmental Assistance, Department of State Planning, 301 West Preston Street, Baltimore, Maryland 21201–2365, Tel. (301) 225–4490

Massachusetts:
Executive Office of Communities and Development, Attn: Beverly Boyle, 100 Cambridge Street, Room 904, Boston, Massachusetts 02202, Tel. (617) 727–3253

Michigan:
Michelyn Pasteur, Director, Local Development Services, Department of Commerce, P.O. Box 30225, Lansing, Michigan 48909, Tel. (517) 373–3530
Staff Contact: Don Bailey, Tel. (517) 334–6190

Minnesota:
Maurice D. Chandler, Intergovernmental Review, Minnesota State Planning Agency, Room 101, Capitol Square Building, St. Paul, Minnesota 55101, Tel. (612) 296–2571

Mississippi:
Office of Federal State Programs, Department of Planning and Policy, 2000 Walter Sillers Bldg., 500 High Street, Jackson, Mississippi 39202
For Information Contact: Mr. Marlan Baucum, Department of Planning and Policy, Tel. (601) 359–3150

Missouri:
Lois Pohl, Coordinator, Missouri Federal Assistance Clearinghouse, Office of Administration, Division of General Services, P.O. Box 809—Room 760, Truman Building, Jefferson City, Missouri 65102, Tel. (314) 751–4834

Montana:
Sue Heath, Intergovernmental Review Clearinghouse, c/o Office of the Lieutenant Governor, Capitol Station, Helena, Montana 59620, Tel. (406) 444–5522

Nebraska:
None

Nevada:
Ms. Jean Ford, Director, Nevada Office of Community Services, Capitol Complex, Carson City, Nevada 89710, Tel. (702) 885–4420

Note.—Correspondence & questions concerning this State's E.O. 12372 process should be directed to: John Walker, Clearinghouse Coordinator, Tel. (702) 885–4420.

New Hampshire:
David G. Scott, Acting Director, New Hampshire Office of State Planning, 2½ Beacon Street, Concord, New Hampshire 03301, Tel. (603) 271–2155

New Jersey:
Mr. Barry Skokowski, Director, Division of Local Government Services, Department of Community Affairs, CN 803, 363 West State Street, Trenton, New Jersey 08625–0803, Tel. (609) 292–6613.

Note.—Correspondence & questions concerning this State's E.O. 12372 process should be directed to: Nelson S. Silver, State Review Process, Division of Local Government, Services, CN 803, Trenton, New Jersey 08625–0803 Tel. (609) 292–9025.

New Mexico:
Dean Olson, Director, Management and Program Analysis Division, Department of Finance and Administration, Management and Contracts Review Div., Clearinghouse Bureau, Room 424, State Capitol, Santa Fe, New Mexico 87503, Tel. (505) 827–3885

New York:
Director of the Budget, New York State.

Note.—Correspondence & questions concerning the State's E.O. 12372 process should be directed to: Harold W. Juhre Jr., New York State Clearinghouse, Division of the Budget, State Capitol, Albany, New York 12224, Tel. (518) 474–1605.

North Carolina:
Mrs. Chrys Baggett, Director, State Clearinghouse, Department of Administration, 116 West Jones Street, Raleigh, North Carolina 27611, Tel. (919) 733–4131

North Dakota:
Bill Robinson, Office of Intergovernmental Assistance, Office of Management and Budget, 14th Floor, State Capitol, Bismarck, North Dakota 58505, Tel. (701) 224–2094

Ohio:
State Clearinghouse, Office of Budget and Management, 30 East Broad Street, Columbus, Ohio 43215
For Information Contact: Mr. Leonard E. Roberts, Deputy Director, Tel. (614) 466–0699

Oklahoma:
Don Strain, Oklahoma Department of Commerce, Office of Federal Assistance Management, 6601 Broadway Extension, Oklahoma City, Oklahoma 73116, Tel. (405) 843–9770

Oregon:
Intergovernmental Relations Division, State Clearinghouse, Attn.: Delores Streeter, Executive Building, 155 Cottage Street, NE., Salem, Oregon 97310, Tel. (503) 373–1998

Pennsylvania:
Laine A. Heltebridle, Special Assistant, Pennsylvania Intergovernmental Council, P.O. Box 11880, Harrisburg, Pennsylvania 17108, Tel. (717) 783–3700

Rhode Island:
Daniel W. Varin, Chief, Rhode Island Statewide Planning Program, 265 Melrose Street, Providence, Rhode Island 02907, Tel. (401) 277–2656

Note.—Questions & correspondence concerning this State's review process should be directed to: Mr. Michael T. Marfeo, Review Coordinator.

South Carolina:
Danny L. Cromer, Grant Services, Office of the Governor, 1205 Pendleton Street, Rm. 477, Columbia, South Carolina 29201, Tel. (803) 734–0435

South Dakota:
Sue Korte, State Clearinghouse Coordinator, State Government Operations, Second Floor, Capitol Building, Pierre, South Dakota 57501, Tel. (605) 773–3661

Tennessee:
Charles Brown, Tennessee State Planning Office, 1800 James K. Polk Building, 505 Deaderick Street, Nashville, Tennessee 37219, Tel. (615) 741–1676

Texas:
Leon Willhite, State Planning Director, Office of the Governor, P.O. Box 13561, Capitol Station, Austin, Texas 78711

Note.—Questions concerning this State's review process should be directed to: Intergovernmental Relations Division, Tel. (512) 463–1814.

Utah:
Dale Hatch, Director, Office of Planning and Budget, State of Utah, 116 State Capitol Building, Salt Lake City, Utah 84114, Tel. (801) 533–5245

Vermont:
State Planning Office, Attn.: Bernie Johnson, Pavilion Office Building, 109 State Street, Montpelier, Vermont 05602, Tel. (802) 828–3326

Virginia:
Nancy Miller, Intergovernmental Affairs, Review Officer, Department of Housing and Community Development, 205 North 4th Street, Richmond, Virginia 23219, Tel. (804) 786–4474

Washington:
Washington Department of Community Development, Attn.: Washington Intergovernmental Review Process, Dori Goodrich, Coordinator, Ninth and Columbia Building, Olympia, Washington 98504–4151, Tel. (206) 586–1240

West Virginia:

Mr. Fred Cutlip, Director, Community Development Division, Governor's Office of Community and Industrial Development, Building #6, Rm. 553, Charleston, West Virginia 25305, Tel. (304) 348–4010

Wisconsin:

Secretary James R. Krauser, Wisconsin Department of Administration, 101 South Webster—GEF 2, P.O. Box 7864, Madison, Wisconsin 53707–7864, Tel. (608) 266–1741

Note.—Correspondence and questions concerning this State's E.O. 12372 process should be directed to: Thomas Krauskopf, Federal-State Relations Coordinator, Wisconsin Department of Administration, P.O. Box 7864, Madison, Wisconsin 53707–7864, Tel. (608) 266–8349.

Wyoming:

Ann Redman, Wyoming State Clearinghouse, State Planning Coordinator's Office, Capitol Building, Cheyenne, Wyoming 82002, Tel. (307) 777–7574

Virgin Islands:

Toya Andrew, Federal Programs Coordinator, Office of the Governor, The Virgin Islands of the United States, Charlotte Amalie, St. Thomas 00801, Tel. (809) 774–6517

District of Columbia:

Lovetta Davis, D.C. State Single Point of Contact for E.O. 12372, Executive Office of the Mayor, Office of Intergovernmental Relations, Rm. 416, District Building, 1350 Pennsylvania Avenue, NW., Washington, DC 20004, Tel. (202) 727–9111

Puerto Rico:

Ms. Patricia G. Custodio, P.E., Chairman and Isael Soto Marrero, Director, Federal Proposal Review Office, Puerto Rico Planning Board, Minillas Government Center, P.O. Box 41119, San Juan, Puerto Rico 00940–9985, Tel. (809) 727–4444

Northern Mariana Islands:

Planning and Budget Office, Office of the Governor, Saipan, CM 96950

American Samoa:

None

Guam:

Guam State Clearinghouse, Office of the Lieutenant Governor, P.O. Box 2950, Agana, Guam 96910.

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Part VI

Department of Commerce

National Oceanic and Atmospheric Administration

50 CFR Part 661

Ocean Salmon Fisheries Off the Coasts of Washington, Oregon, and California; Notice of 1987 Fishery Management Measures and Request for Comments

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 661

[Docket No. 70485-7085]

Ocean Salmon Fisheries Off the Coasts of Washington, Oregon, and California

AGENCY: National Marine Fisheries Service (NMFS), NOAA, Commerce.

ACTION: Notice of 1987 fishery management measures and request for comments.

SUMMARY: NOAA issues this notice establishing fishery management measures for the commercial and recreational ocean salmon fisheries off Washington, Oregon, and California for 1987. Specific measures vary by fishery and area. Together they establish fishing areas, seasons, quotas, legal gear, recreational fishing days and catch limits, possession and landing restrictions, and minimum lengths for salmon taken in the exclusive economic zone (3–200 miles) off Washington, Oregon, and California. Similar regulations are being adopted for the territorial sea (0–3 miles) by the States of Washington, Oregon, and California. The management measures are intended to prevent overfishing and to apportion the ocean harvest equitably among non-treaty commercial and recreational and treaty Indian fisheries. The regulations also are calculated to allow a portion of the salmon runs to escape the ocean fisheries to provide for treaty Indian and non-Indian inside fisheries and spawning. These management measures were established using the procedures instituted by the framework amendment to the ocean salmon fishery management plan.

DATES: This notice will be effective from 0001 hours (Pacific Daylight Time) May 1, 1987 until modified, superseded or rescinded. Comments will be accepted until May 15, 1987.

ADDRESSES: Comments on this notice may be submitted to Rolland A. Schmitten, Director, Northwest Region, National Marine Fisheries Service, 7600 Sand Point Way NE, BIN C15700, Seattle, WA 98115; or E. Charles Fullerton, Director, Southwest Region, 300 South Ferry Street, Terminal Island, CA 90731.

FOR FURTHER INFORMATION CONTACT: Rolland A. Schmitten, 206–526–6150; E. Charles Fullerton, 213–514–6196; or the Pacific Fishery Management Council, 503–221–6352.

SUPPLEMENTARY INFORMATION:

Background

The ocean salmon fisheries off Washington, Oregon, and California are managed under a "framework" fishery management plan (FMP). Regulations at 50 CFR Part 661 provide the mechanism for making preseason and inseason adjustments to the management measures, within limits set by the FMP, by notice in the **Federal Register.**

The majority of 1986 management measures (51 FR 16520, May 5, 1986), which were implemented under the framework FMP, remain in effect until modified, superseded, or rescinded by the 1987 management measures.

This notice implements management measures for the 1987 ocean salmon fisheries recommended by the Pacific Fishery Management Council (Council).

Schedule Used to Establish 1987 Management Measures

In accordance with the FMP, the Council's Salmon Plan Development Team (Team) and staff economist prepared several reports for the Council, its advisors and the public. The first report, "Review of 1986 Ocean Salmon Fisheries," summarizes the 1986 ocean salmon fisheries and assesses how well the Council's management objectives were met in 1986. The second report, "Preseason Report I: Stock Abundance Analysis for 1987 Ocean Salmon Fisheries," provides the 1987 salmon stock status projections and analyzes the impacts on the stocks and FMP management goals if the 1986 regulations were to be used in 1987.

The Council met on March 10–13, 1987, in Portland, Oregon, to develop proposed management options for 1987. Three troll and three recreational fishery management options were proposed for further analysis and public comment. These options presented various combinations of management measures calculated to protect the weak stocks and provide for ocean harvests of more abundant stocks of coho, chinook, and pink salmon. After the March Council meeting, the Team and staff economist prepared a third report, "Preseason Report II: Analysis of Proposed Regulatory Options for 1987 Ocean Salmon Fisheries," which analyzes the effects of the proposed 1987 management options. This report also was distributed to the Council, its advisors, and the public.

Public hearings on the proposed options were held from March 31 to April 6, 1987, in Seattle, Washington; Coos Bay and Astoria, Oregon; and Sacramento and Eureka, California.

The Council met on April 7–9 in Seattle to adopt its final 1987 recommendations to the Secretary of Commerce (Secretary). The Team and staff economist prepared a fourth report, "Preseason Report III: 1987 Ocean Salmon Fisheries, Analysis of Impacts of Council Adopted 1987 Regulations," which analyzes the effects of the Council's final recommendations. This report also was distributed to the Council, its advisors, and the public.

Resource Status

Some salmon runs returning to Washington, Oregon, and California streams in 1987 are expected to be larger than in 1986. They include a predicted return of 436,400 Columbia River bright fall chinook adults destined for areas above Bonneville Dam, the largest run size in recent history; lower Columbia River hatchery chinook, nearly 300,000 of which are expected to return to the river, also the largest run size in recent history; and some Washington coastal coho stocks, which although still depressed are predicted to be about double the 1986 preseason abundance estimates.

Other salmon runs are not as large as in 1986, but will exceed recent year averages. California Central Valley fall chinook runs are expected to be comparable to recent year averages. Over 169,000 Klamath River fall chinook are expected to return to the river in 1987, compared to a 1978–85 average of 61,000 fish. The expectation for Oregon coastal chinook stocks is for continuation of above average to near record abundance levels.

Primary resource concerns are for depressed Columbia River Spring Creek hatchery fall chinook and Skagit River natural coho salmon. Management of both of these depressed stocks is impacted by interjurisdictional agreements among tribal, state, federal, and/or Canadian managers.

Chinook Salmon Stocks

Abundance of California Central Valley chinook stocks is expected to be comparable to that of recent years. Sacramento River fall-run chinook are healthy and comprise the majority of Central Valley salmon. Spawning escapement is predicted to be within the 122,000–180,000 goal range in 1987. Although winter-run chinook of the upper Sacramento River are severely depressed, the run is insignificantly impacted by ocean fisheries. A request was received to consider listing Sacramento River winter-run chinook under the Endangered Species Act. However, NMFS has determined that a

proposed listing of this stock as endangered or threatened is not warranted because State and Federal fishery management agencies are addressing the habitat problems that contributed to its decline [59 FR 6041, February 27, 1987].

Primary management concerns are for Klamath River fall chinook in the area from Point Delgada, California, to Cape Blanco, Oregon. The estimated total ocean population of Klamath River fall chinook in 1987 is 420,800 fish, lower than the 1986 post-season estimate of 515,000 but higher than recent year averages. The projected ocean escapement to the Klamath is 104 percent above the framework ocean escapement goal of 82,700 adult fall chinook (average 1987–1990).

Oregon coastal chinook stocks include south-migrating and localized stocks primarily from southern Oregon streams, and north-migrating chinook stocks which generally originate in central and northern Oregon streams. Abundance of south-migrating and localized stocks is expected to be similar to or above 1986 levels. These stocks are important contributors to ocean fisheries off northern California and off Oregon. The generalized expectation for north-migrating stocks in 1987 is for a continuation of increased abundance as observed in recent years. The north-migrating stocks primarily contribute to ocean fisheries off British Columbia and Alaska.

Estimates of Columbia River chinook abundance vary by stock. Numbers of upriver spring chinook predicted to return to the river in 1987 are considerably below the 1986 run size, but still 40 percent greater than the 1979–84 average. They are affected only slightly by ocean harvests off Oregon and Washington. Lower river spring (Willamette) chinook returns are expected to be slightly better than in 1986. The upriver bright fall chinook run is in excellent condition with 436,400 fish forecasted to return to the river. The inriver return of this stock in 1986, 280,000 fish, also was excellent, the largest since 1971. The escapement goal for upriver bright chinook is 40,000 fish above McNary Dam. For 1987, Spring Creek hatchery fall chinook is the primary resource constraint on ocean chinook harvests north of Cape Falcon, Oregon. Although abundance of lower river hatchery stocks is expected to be greatly increased from recent levels, abundance of Spring Creek hatchery chinook continues to decline. The projection for a record low return to the Columbia River of only 9,200 Spring Creek hatchery fall chinook in 1987 is primarily the result of a bacterial gill disease outbreak in the 1984 brood at the hatchery, when fish had to be released early, at a very small size, and in very poor health. It is expected that Spring Creek hatchery chinook runs will increase beginning in 1988 because of modifications made in hatchery practices since 1984.

Washington coastal and Puget Sound chinook are generally far-north migrating, and are affected insignificantly by ocean harvests from Cape Falcon to the U.S.-Canada border.

Coho Salmon Stocks

Oregon coastal and Columbia River coho stocks are the primary components of the Oregon Production Index (OPI). The OPI is an annual index of coho abundance from Leadbetter Point, Washington, south through California. The 1987 OPI is 1,047,600 coho, a large decrease from the 1986 OPI of 1,807,600 fish. Estimated private hatchery production within the OPI area is 465,600 coho salmon which is added to the OPI to estimate total coho abundance in the area.

Because of concerns expressed by Team members about increasing problems with data interpretation and by user-group representatives about the underestimation of the 1986 OPI stock-size, the Council adopted a modified predictor for this group of fish for 1987. The modified predictor is based upon the relationship of jacks to adult coho without the jack variable adjusted for modified hatchery rearing regimes (as has been done since 1983). It also uses an extended 1970–86 data base, with Oregon coastal natural (OCN) escapements added to the total, rather than the 1977-on data set used since 1983. Better survival, and consequent additional adult contribution, by delayed-release hatchery stocks is recognized by adding adult fish onto a base stock size predicted by the unadjusted jack:adult regression.

This add-on is calculated by (1) separating the Columbia River component from other elements within the predicted base stock size, (2) identifying the proportion of Columbia River delayed-release smolts (by early and late stock type), (3) multiplying the proportion of delayed releases by the base adult estimate to obtain the number of delayed adults in the base, and (4) expanding the base delayed adults by an estimate of their respective survival advantage to obtain the expanded number of adults resulting from delayed release programs. The total OPI stock size estimate is then the sum of the base and expanded Columbia River adults plus the coastal, Oregon Salmon and Trout Enhancement Program and OCN coho elements. The OPI abundance estimate in 1987 was derived using the best scientific information as determined by the Council.

Columbia River and Oregon coastal coho are managed as one stock under the framework of the OPI because they are largely mixed in the Ocean fisheries. However, Columbia River stocks are managed for full utilization of hatchery production, while Oregon coastal natural coho (OCN) are managed to achieve stock-abundance dependent escapement goals.

The Oregon Department of Fish and Wildlife (ODFW) estimates abundance of OCN coho in 1987 at 458,000 fish. The estimate is based on the spawner-recruit relationship for Deer Creek salmon. This relationship is applied to OCN coho brood year escapements and adjusted by the current, estimated survival rate of smolts to derive total estimated OCN coho abundance.

The OCN abundance estimate was reviewed by the Salmon Plan Development Team and was determined by the Council to be based on the best scientific information and methodology available in accordance with the recent amendment to the FMP.

The abundance of several northern Washington coastal natural coho stocks, which have been severely depressed in recent years, is expected to improve in 1987. Natural fall-run coho returning to the Queets, Hoh and Quillayute Rivers, and to Grays Harbor are expected to increase 113, 73, 129, and 139 percent, respectively, over 1986 preseason estimates of abundance.

Skagit River natural coho escapement is the primary resource constraint on ocean coho harvests north of Cape Falcon in 1987. The spawning escapement goal on the Skagit of 30,000 fish, established by the Washington Department of Fisheries and the Skagit River tribes in 1978, will not be met. The run is severely impacted by Canadian coho catches off the West Coast of Vancouver Island, which have increased greatly in recent years. Only 36,600 Skagit River natural coho are expected to enter the Strait of Juan de Fuca in 1987.

The status of another naturally-spawning Puget Sound stock, the Stillaguamish, is also depressed. Ocean escapement is expected to be under 30,000 fish, and with anticipated treaty and non-treaty terminal fisheries, the spawning goal of 17,000 fish may not be reached.

Pink Salmon Stocks

Two major stocks comprise the pink salmon population available to the ocean fisheries during odd-numbered years.

The Fraser River pink run is forecast at 11 million fish compared with an actual run in 1985 of nearly 19 million. The 1987 escapement goal is 6 million spawners.

The preliminary preseason forecast of total abundance of Puget Sound origin pink salmon is 1.6 million, compared with a 1985 preseason forecast of 1.9 million. The escapement goal for this stock is 900,000 spawners.

Management Measures for 1987

The Council adopted allowable ocean harvest levels and management measures for 1987 which are designed to apportion the burden of protecting the weak stocks discussed above equitably among ocean fisheries and to allow maximum harvest of natural and hatchery runs surplus to inside fishery and spawning needs.

South of Point Arena, California, 1987 troll regulations are similar to 1986 regulations. From Point Arena to Point Delgada, California, regulations are similar to 1986 except that the troll fishery is closed Thursday through Saturday from June 1 to June 14 to reduce impact on Klamath River fall chinook. There is a troll quota of 30,000 coho south of Point Delgada. Near the end of July, the Team will determine how many of these coho are needed to complete the troll season south of Point Delgada and the remainder will be transferred to the troll quota north of Point Delgada. The only change in recreational regulations south of Point Delgada is that barbed hooks will be allowed south of Point Conception.

From Punta Gorda to Trinidad Head, a September ocean fishery within 6 nautical miles of shore will occur for both troll and recreational fisheries to target on chinook, although all species may be retained. Impacts on coho and Klamath River chinook stocks are expected to be minor, given results of a similar 1986 fishery. If there are significant numbers of Klamath River fall chinook harvested in this fishery, they will be subtracted from the 1988 ocean allocations.

From Point Delgada to Cape Blanco, Oregon, ocean fisheries are restricted to no more than 200,000 chinook to meet harvest rate agreements on Klamath River fall stocks. The all-species troll season begins over two weeks earlier than in 1986, but is closed Thursday through Saturday from June 1 to June 14. At least one chinook must be landed for each coho landed during this season. Near the end of July, troll chinook and coho quotas may be adjusted by several factors. The troll coho quota may be adjusted based on projected needs to complete the recreational season in the area and on projected needs to complete the troll season south of Point Delgada. The troll chinook quota may be adjusted based on the projected impact of fisheries outside the area on Klamath River fall chinook, the projected needs to complete the recreational season in the area, or to account for an over-quota or under-quota harvest in the earlier Sisters Rocks to Chetco Point troll fishery. The all-except-coho season extends one week later than in 1986, to September 7, or until the chinook quota is reached. Two near-shore troll fisheries, from Sisters Rocks to Chetco Point, and from Sisters Rocks to Mack Arch, will target on chinook returning to the Rogue River in May and August-September, respectively. The 7,500 subarea chinook quota for the Sisters Rocks to Mack Arch fishery may be increased or decreased in season to account for an under-quota or over-quota harvest during the all-species troll season from Point Delgada to Cape Blanco. Similar troll fisheries occurred in these subareas in 1986, and resulted in minor catches of non-local stocks. The recreational all-species season extends one week longer than in 1986, to September 13, with a two fish bag limit.

From Cape Blanco to Cape Falcon, Oregon, ocean regulations are designed to maximize the harvest of relatively plentiful Oregon coastal chinook stocks, minimize harvest of Klamath River stocks, and spread out the somewhat limited number of coho available to the ocean fisheries. Trollers may possess or land 100 coho before a ratio of 2-to-1 coho-to-chinook is imposed during some subarea all-species seasons. In other subareas or at specified times, the 100 coho allowance is deleted and the 2-to-1 coho-to-chinook ratio is retained. Three-day closures of the troll all-species fishery will occur in specified areas when 80 percent and again when 100 percent of the coho quota for the area south of Cape Falcon has been taken. The overall troll quota south of Cape Falcon is 453,500 coho, with 423,500 coho available to the troll fishery from Cape Falcon to Point Delgada. Near the end of July, any coho not needed to complete the recreational seasons south of Cape Falcon and any coho not needed to complete the troll season south of Point Delgada will be transferred to the troll quota from Cape Falcon to Point Delgada. The all-species recreational fishery begins on June 13, several weeks later than in 1986, and will continue without a break until September 13 unless the coho quota is met. Before July 10, the catch rate will be evaluated to determine if additional restrictions are needed to extend the fishery through Labor Day. The overall recreational coho quota south of Cape Falcon is an impact of 269,200 fish. Consistent with the revised coho allocation schedule implemented by Amendment 7 to the FMP, a larger proportion of the harvest is allocated to the recreational fishery than in previous years.

From Cape Falcon to the U.S.-Canada border, ocean fisheries are managed to protect depressed Spring Creek hatchery chinook and Skagit River natural coho. Ocean treaty and non-treaty harvests and management measures were established by the Council based on negotiations among fishery managers and user group representatives as authorized by the U.S. District Court in U.S. v. *Washington, U.S.* v. *Oregon*, and *Hoh Indian Tribe et al.* v. *Baldrige*. Not all fishery managers and user groups agreed with the management measures. The troll all-except-coho fishery north of Cape Falcon extends from May 1 to May 15 followed by a three-day closure for evaluation of landings from May 16 through May 18. The subarea north of the Queets River extends from May 19 through the earlier of June 15 or a chinook area quota north of Cape Falcon of 42,400 fish, while the season in the subarea south of the Queets River closes two weeks earlier, on May 31 unless the chinook quota is reached before then.

Two troll all-species seasons are scheduled. The first, from Cape Falcon to the Queets River, will begin on July 25, a week earlier than in 1986, with quotas of 15,000 chinook and 121,200 coho. A three-day closure for evaluation of landings is in effect from July 28 through July 30. The second, north of Carroll Island, will begin when a Washington Department of Fisheries test fishery shows catches are at or above an 8-to-1 pink-to-coho salmon ratio or August 15, whichever is earlier. This fishery is to target on pink salmon, and is restricted by 8-to-1 pink-to-coho and 20-to-1 pink-to-chinook possession and landing ratios. Subarea quotas of 4,000 chinook and 20,000 coho (including hooking mortality) are in effect for the fishery. Delivery restrictions apply in all subareas.

Recreational fisheries north of Cape Falcon are similar in structure to 1986 seasons. Fisheries begin on June 28 in three subareas for all species. The fisheries in all subareas are open Sunday through Thursday each week.

Each subarea has separate coho and chinook quotas. The subarea north of the Queets River has a 2 fish daily bag limit, only one of which may be a chinook, while the other subareas have a 2-fish limit as in 1986. The fishery is closed from the Red Buoy line south of the Columbia River to Klipsan Beach, Washington, and inside 3 nautical miles from shore from Klipsan Beach to Queets River, Washington.

All non-treaty fisheries north of Cape Falcon are governed by an overall quota of 106,000 chinook and total coho impacts (catches plus hooking mortality) as reflected by current coho catch quotas and anticipated ocean escapement of Skagit River natural coho salmon. An emergency rule is being processed to allow a quota overage in one ocean fishery to be deducted from the other ocean fishery to avoid exceeding total ocean quotas or impacts. The impacts of a Buoy 10 recreational fishery managed by the States of Washington and Oregon near the mouth of the Columbia River, with preseason quotas of 30,000 chinook and an expected harvest of 90,000 coho salmon, were taken into consideration in determining the number of fish which could be taken in the ocean, although Buoy 10 catches are not counted in ocean quotas.

Treaty troll fisheries north of Cape Falcon, are governed by quotas of 15,800 chinook and 86,000 coho salmon. Treaty troll seasons, minimum length restrictions, and gear restrictions were developed by the tribes and agreed to by the Council. The chinook minimum length restriction for all treaty Indian ocean fisheries is 26 inches. The all-except-coho fisheries extend three weeks longer than in 1986, to June 22, if the chinook quota is not reached. The all-species seasons extend through September, in all treaty areas, one month shorter than in 1986 for the Makah treaty area and two weeks longer for other treaty areas. The minimum length restriction for coho salmon is 16 inches in all tribal areas.

The following tables and text reflect the management measures recommended by the Council for 1987. The Secretary concurs with these recommendations and finds them responsive to the goals of the FMP, the requirements of the resource, and the socio-economic factors affecting resource users. The recommendations are consistent with the requirements of the Magnuson Fishery Conservation and Management Act and other applicable law including United States obligations to Indian tribes with treaty-secured fishing rights.

The following management measures are adopted for 1987 under 50 CFR Part 661.

TABLE 1.—COMMERCIAL MANAGEMENT MEASURES ADOPTED BY THE COUNCIL FOR 1987 OCEAN SALMON FISHERIES [a]

[Note.—Footnotes to this table contain important additional restrictions which must be followed for lawful participation in the fishing]

Area and season	Salmon species	Quota (thousands)		Minimum size limit (inches) [b]		Restrictions and exceptions
		Chinook	Coho	Chinook	Coho	
U.S.-CANADA BORDER TO CAPE FALCON, May 1 thru earlier of May 15 or chinook area quota.	All except coho	[c] 42.4		28		Barbless hooks; Conservation Zone 2 (Columbia River mouth) is closed (see footnote [d]). Chinook harvested in this fishery must be landed north of Cape Falcon unless reported as provided in footnote [e] below.
U.S.-Canada Border to Queets River, May 19 thru earlier of June 15 or chinook area quota.	All except coho					Barbless hooks. Chinook harvested in this fishery must be landed north of Cape Falcon unless reported as provided in footnote [e] below.
Queets River to Cape Falcon, May 19 thru earlier of May 31 or chinook area quota.	All except coho					Barbless hooks; Conservation Zone 2 (Columbia River mouth) is closed (see footnote [d]). Chinook harvested in this fishery must be landed north of Cape Falcon unless reported as provided in footnote [e] below.
U.S.-CANADA BORDER TO CARROLL ISLAND, Earlier of August 15 or attainment of an 8-to-1 pink-to-coho catch ratio in a test fishery thru the earlier of coho or chinook subarea quota [f].	All, with restrictions.	[c] 4.0	[c] 20.0	28	16	Flashers with barbless, bare, blued hooks only. Conservation Zone 1 is closed (inside a north-south line at approximately 40 fathoms; see footnote [d]). At least 8 pinks must be possessed or landed for each coho possessed or landed, and 20 pinks must be possessed or landed for each chinook possessed or landed; except there may be a single daily possession and landing per vessel of 1 coho and/or 1 chinook without the ratio requirement. The same pinks may be counted to meet both the coho and chinook ratio requirements. The chinook and coho must be delivered with the pinks. Pink salmon possessed or landed from this management area may not be returned or transferred to any vessels except vessels licensed to buy salmon. Salmon harvested in this fishery must be landed in this area unless reported as provided in footnote [e] below.

TABLE 1.—COMMERCIAL MANAGEMENT MEASURES ADOPTED BY THE COUNCIL FOR 1987 OCEAN SALMON FISHERIES [a]—Continued

[Note.—Footnotes to this table contain important additional restrictions which must be followed for lawful participation in the fishing]

Area and season	Salmon species	Quota (thousands)		Minimum size limit (inches) [b]		Restrictions and exceptions
		Chinook	Coho	Chinook	Coho	
QUEETS RIVER TO CAPE FALCON, July 25 thru July 27.	All	[c] 15.0	[c] 121.2	28	16	Barbless hooks; Conservation Zone 2 (Columbia River mouth) is closed (see footnote [d]). All salmon harvested in this fishery must be landed in this area unless reported as provided in footnote [e] below. [Any uncaught portion of the chinook quota will be transferred to the all species troll fishery from the U.S.-Canada border to Carroll Island.]
July 31 thru earlier of chinook or coho subarea quota.						
CAPE FALCON TO CASCADE HEAD, May 1 thru July 14.	All except coho	None		26		Barbless hooks.
July 15 thru coho quota (see footnote [h] for three-day closure to assess coho landings).	All, with restrictions.	None	(f)	26	16	Barbless hooks. A single daily possession and landing per vessel of 100 coho is permitted. To possess or land more than 100 coho, chinook must also be possessed or landed such that there is at least 1 chinook possessed or landed for every 2 coho possessed or landed over 100. Mixed loads of chinook and coho or coho-only loads must be delivered in the area except that from July 15 to July 25 mixed loads of chinook and coho or coho-only loads may be delivered as far north as Cannon Beach (45°54'00" N. latitude). There are no restrictions on the place of delivery of chinook-only loads. Chinook salmon possessed or landed in this management area may not be returned or transferred to any vessels except vessels licensed to buy salmon.
Coho quota thru Oct. 31	All except coho	None		26		Barbless hooks.
CASCADE HEAD TO CAPE PERPETUA, May 1 thru July 14.	All except coho	None		26		Barbless hooks.
July 15 thru 80% of coho quota (see footnote [h] for three-day closure to assess coho landings).	All, with restrictions.	None	(f)	26	16	Barbless hooks. A single daily possession and landing per vessel of 100 coho is permitted. To possess or land more than 100 coho, chinook must also be possessed or landed such that there is at least 1 chinook possessed on landed for every 2 coho possessed or landed over 100. Mixed loads of chinook and coho or coho-only loads must be delivered in the area. There are no restrictions on the place of delivery of chinook-only loads. Chinook salmon possessed or landed in this management area may not be returned or transferred to any vessels except vessels licensed to buy salmon.
Reopening to coho quota [h]	All, with restrictions.	None	(f)	26	16	Barbless hooks. At least 1 chinook must be possessed or landed for each 2 coho possessed or landed; except there may be a single daily possession and landing per vessel of 2 coho without the ratio requirement. Chinook must be delivered with coho. Chinook salmon possessed or landed in this management area may not be returned or transferred to any vessels except vessels licensed to buy salmon.
Coho quota thru Oct. 31	All except coho	None		26		Barbless hooks.
CAPE PERPETUA TO CAPE BLANCO, May 1 thru June 30.	All except coho	None		26		Barbless hooks.
July 1 thru coho quota (see footnote [h] for three-day closure to assess coho landings).	All, with restrictions.	None	(f)	26	16	Barbless hooks. At least 1 chinook must be possessed or landed for each 2 coho possessed or landed; except there may be a single daily possession and landing per vessel of 2 coho without the ratio requirement. Chinook must be delivered with coho. Chinook salmon possessed or landed in this management area may not be returned or transferred to any vessels except vessels licensed to buy salmon.

TABLE 1.—COMMERCIAL MANAGEMENT MEASURES ADOPTED BY THE COUNCIL FOR 1987 OCEAN SALMON FISHERIES [a]—Continued

[Note.—Footnotes to this table contain important additional restrictions which must be followed for lawful participation in the fishing]

Area and season	Salmon species	Quota (thousands)		Minimum size limit (inches) [b]		Restrictions and exceptions
		Chinook	Coho	Chinook	Coho	
Coho quota thru Oct. 31 [h] (For the area south of Cape Arago, the season will begin three days after coho quota is reached.[h]).	All except coho	None		26		Barbless hooks.
CAPE BLANCO TO POINT DELGADA June 1 thru June 14 Sunday thru Wednesday only [h].	All, with restrictions.	[i] 115,000	[e]	26	22	Barbless hooks. At least 1 chinook must be possessed or landed for each 1 coho possessed or landed; except there may be a single daily possession and landing per vessel of 2 coho without the ratio requirement. Chinook must be delivered with coho. Chinook salmon possessed or landed in this management area may not be returned or transferred to any vessels except vesels licensed to buy salmon. Conservation Zone 3 (Klamath River mouth [d]) is closed. No more than six lines per boat off California. The total chinook quota for all ocean salmon fisheries between Cape Blanco and Point Delgada prior to Sept. 8 is 200,000 chinook. On July 29, the SPDT will determine how many chinook will be required to complete the recreational season. Any remaining quota will be applied to the troll quota for this area.
June 15 thru earliest of Sept. 7 or chinook or coho quota (see footnote [h] for three-day) closure to assess coho landings).	All, with restrictions.	([i])	([e])	26	22	
Three days after coho quota is reached thru earlier of chinook quot or Sept. 7 [h].	All except coho	([i])		26		Barbless hooks. Conservation Zone 3 (Klamath River mouth [d]) is closed. No more than six lines per boat off California.
Sisters Rocks to Chetco Point May 1 thru earlier of May 31 or subarea chinook quota.	All except coho	[i] 7.5		26		Barbless hooks. Open only within 6 nautical miles of the baseline from which the territorial sea is measured (6 miles from shore).
Sisters Rocks to Mack Arch Later of Aug. 22 or general area chinook quota thru earlier of Sept. 7 or chinook subarea quota.	All except coho	[i] 7.5		26		Barbless hooks. Open only within 6 nautical miles of the baseline from which the territorial sea is measured (6 miles from shore).
Trinidad Head to Punta Gorda Sept. 8 thru earlier of Sept. 30 or chinook quota.	All	15.0	None	26	22	Barbless hooks. Open only within 6 nautical m shore. No more than 6 lines per boat. The K1 fall chinook portion of the catch during this determined by the SPDT, may be subtracted from troll allocation.
POINT DELGADA TO POINT ARENA, May 1 thru May 31.	All except coho	None		26		Barbless hooks; not more than 6 lines per boat.
June 1 thru June 14, Sunday thru Wednesday only [h].	All	None	([e])	26	22	Barbless hooks; not more than 6 lines per boat.
June 15 thru earlier of Sept. 30 or coho quota.	All	None	([e])	26	22	Barbless hooks; not more than 6 lines per boat.
Coho quota through Sept. 30.	All except coho	None		26		Barbless hooks; not more than 6 lines per boat.
POINT ARENA TO U.S.-MEXICO BORDER, May 1 thru May 31.	All except coho	None		26		Barbless hooks; not more than 6 lines per boat.
June 1 thru earlier of Sept. 30 or coho quota.	All	None	([e])	26	22	Barbless hooks; not more than 6 lines per boat.
Coho quota through Sept. 30.	All except coho	None		26		Barbless hooks; not more than 6 lines per boat.

[a] Consistent with Council management objectives, Oregon may establish some additional late season, all-salmon-except-coho fisheries in state waters.

[b] Applicable lengths, in inches, for dressed, head-off salmon are as follows:
chinook: Total length: 26, 28 head-off: 19.5, 21.5 coho: Total length: 16, 22 head-off: 12.0, 16.5.

Chinook salmon less than 28 inches (21.5 inches head-off) in length taken in the ocean troll fishery may not be landed north of Cape Falcon except that salmon not less than 26 inches (19.5 inches head-off) taken south of Cape Falcon may be landed north of Falcon at times when the season is closed north Falcon and open south of Cape Falcon.

[c] The non-treaty ocean fisheries north of Cape Falcon (recreational and troll) will be managed not to exceed either (1) an overall 106,000 chinook quota or (2) impacts on Skagit River natural coho stocks equivalent to the overall preseason quota north of Cape Falcon of 342,100 coho.

[d] Description of Conservation Zones:

Conservation Zone 1 is an area bounded by a line from Bonilla Point on Vancouver Island (48°35'8" N. latitude and 124°43' W. longtitude) to 48°20' N. latitude and 124°51' W. longitude to 48°13' N. latitude and 124°54' W. longitude to 48°00'18" N. latitude and 124°55' W. longitude to Carroll Island (48°00'18" N. latitude and 124°43'5" W. longitude).

Conservation Zone 2 is the ocean area surrounding the Columbia River mouth bounded by a line extending for 6 nautical miles due west from North Head along 46°18'00" N. latitude to 124°13'18" W. longitude, then southerly along a line of 167 True to 46°11'06" N. latitude and 124°11'00" W. longitude (Columbia River Buoy), then east along Red Buoy Line to tip of south jetty.

Conservation Zone 3 is the ocean area surrounding the Klamath River mouth bounded on the north by 41°38'48" N. latitude (approximately 6 nautical miles north of the Klamath River mouth), on the west by 124°23'00" W. longitude (approximately 12 miles from shore) and on the south by 41°26'48" N. latitude (approximately 6 nautical miles south of the Klamath River mouth).

[e] Vessels possessing salmon taken in this management area and delivering to a port outside of the area must notify the United States Coast Guard and receive acknowledgment of such notification prior to leaving the area. This notification shall include the name of vessel, port where delivery will be made, approximate amount of salmon (by species) on board and the estimated time of arrival. Information on notification will be given to the Washington Department of Fisheries and Oregon Department of Fish and Wildlife and is required for quota assessment.

[f] The Washington Department of Fisheries will conduct a test fishery with a minimum of three boats beginning July 25 to assess the pink-to-coho catch ratio and establish the season starting date. Fish caught in this test fishery count toward achievement of the subarea quota.

[g] Overall troll catch quota south of Cape Falcon is 401,700 coho. An inseason roll-over to the troll fishery of any portion of the recreational quota projected to be in excess of sport fishery needs will be made on or about August 1. The subarea catch quota from Point Delgada to the U.S.-Mexico border is 26,800 coho. On or about July 29, the Salmon Plan Development Team will determine how many coho salmon are needed to complete the troll season south of Point Delgada, and the remainder (if any) will be transferred to the troll quota north of Point Delgada.

[h] (1) When 80% of the coho quota for the area south of Cape Falcon is reached, the entire Cape Falcon to Point Delgada area will close to all ocean troll fishing for three days to assess landings and project the remaining all-species fishing period. When the entire coho quota for the area south of Cape Falcon has been reached, an additional three-day closure will occur from Cape Arago to Point Delgada.

(2) During all three-day closures between U.S.-Canada border and Point Delgada, except for the 12-hour period following closure no person may operate a commercial salmon vessel in a closed area with salmon on board without prior notification of the Commander, Pacific Area, U.S. Coast Guard, through the nearest Coast Guard station. In addition, it is unlawful for a vessel to which has been issued an ocean salmon fishing permit by any State to have troll gear in the water during any three-day closure between the U.S.-Canada border and Point Delgada.

[i] There is an overall troll and recreational quota of 200,000 chinook prior to September 8, but the recreational fishery is allocated whatever amount of chinook is needed to complete its scheduled season. Troll quotas may be adjusted on or about July 29 depending upon the number of chinook needed to complete the recreational season and the projected harvest of Klamath River fall chinook in all ocean areas south of Cape Falcon. Any quota overage or underage from the troll chinook harvest in the Sisters Rocks to Chetco Point fishery will be subtracted from or added to the quota for all-species troll fishery from Cape Blanco to Point Delgada. In addition, any quota overage or underage from the chinook harvest in the earlier troll fisheries from Cape Blanco to Point Delgada will be subtracted from or added to the quota for the all-except-coho fishery from Sisters Rocks to Mack Arch.

TABLE 2.—RECREATIONAL MANAGEMENT MEASURES ADOPTED BY THE COUNCIL FOR 1987 OCEAN SALMON FISHERIES [b]

[Note: Footnotes to this table contain important additional restrictions which must be followed for lawful participation in the fishing]

Area and season	Salmon species	Quota (thousands)		Minimum size limit (inches)		Daily bag limits, restrictions and exceptions
		Chinook	Coho	Chinook	Coho	
U.S.-CANADA BORDER TO QUEETS RIVER, June 28 thru earliest of Sept. 24 or chinook or coho quota Sunday thru Thursday only.	All	*2.5	*26.1	24	16	2 fish, only 1 of which may be a chinook. Barbless hooks. The area inside the Umatilla-Tatoosh Line may be closed by inseason action if necessary to extend the season.
QUEETS RIVER TO LEADBETTER POINT, June 28 thru earliest of Sept. 24 or chinook or coho quota Sunday thru Thursday only.	All	*28.0	*74.3	24	16	2 fish. Barbless hooks. Closed within 3 nautical miles of shore. Additional area closures, e.g., 0-5 miles from shore, may be implemented if necessary to extend the season.
LEADBETTER POINT TO KLIPSAN BEACH AND RED BUOY LINE TO CAPE FALCON, June 28 thru earliest of Sept. 24 or chinook or coho quota Sunday thru Thursday only.	All	*14.1	*100.5	24	16	2 fish. Barbless hooks. Closed within 3 nautical miles of shore from Leadbetter Point to Klipsan Beach. The daily bag limit may be reduced to 2 fish, only one of which may be a chinook, if necessary to extend the season.
Klipsan Beach to Red Buoy Line: Closed						
CAPE FALCON TO CAPE BLANCO, June 13 thru earlier of Sept. 13 or coho quota.	All	None	[c]	None	None	First 2 fish hooked per day must be retained. No more than 2 fish may be retained per day; no more than 6 fish may be retained in 7 consecutive days. Before July 10, the catch rate will be evaluated to determine the possibility of reaching the quota before Labor Day. If this possibility exists, inseason actions to dampen the harvest rate could occur which would include closure of certain days each week.
CAPE BLANCO TO POINT DELGADA, May 23 thru Sept. 13.	All	[d]	[e]	20	20	2 salmon of any species; no more than 6 fish may be retained in 7 consecutive days. Barbless hooks. Conservation Zone 3 (Klamath River month) is closed Aug. 1 thru Aug. 31.[f]

TABLE 2.—RECREATIONAL MANAGEMENT MEASURES ADOPTED BY THE COUNCIL FOR 1987 OCEAN SALMON FISHERIES [b]—Continued

[Note: Footnotes to this table contain important additional restrictions which must be followed for lawful participation in the fishing]

Area and season	Salmon species	Quota (thousands)		Minimum size limit (inches)		Daily bag limits, restrictions and exceptions
		Chinook	Coho	Chinook	Coho	
Trinidad Head To Punta Gorda, Sept. 14 thru Sept. 30.	All	None	None	20	20	2 salmon of any species; no more than 6 fish may be retained in 7 consecutive days. Barbless hooks. Open only within 6 nautical miles of shore. The Klamath River fall chinook portion of the harvest may be subtracted from 1988 area recreational quota.
POINT DELGADA TO U.S.-MEXICO BORDER, Nearest Saturday to Feb 15 to nearest Sunday to Nov. 15.	All	None	[e]	20	20	2 salmon of any species. Barbless hooks required north of Point Conception.

[a] The non-treaty ocean fisheries north of Cape Falcon (recreational and troll) will be managed not to exceed either (1) an overall 106,000 chinook quota or (2) impacts on Skagit River natural coho stocks equivalent to the overall preseason quota north of Cape Falcon of 342,100 coho.

[b] These management measures are based on a Buoy 10 fishery (Columbia River mouth to the Astoria-Megler Bridge) with a quota of 30,000 chinook and a projected harvest of 90,000 coho. Consistent with Council management objectives, Oregon may establish some additional late season, all-salmon-except-coho fisheries in state waters.

[c] There is an overall recreational impact quota of 269,200 coho south of Cape Falcon. Any portion of the recreational quota not needed to complete scheduled recreational seasons will be transferred to the troll fishery on or about August 1.

[d] There is an overall troll and recreational quota of 200,000 chinook prior to September 8, but the recreational fishery is allocated whatever amount of chinook is needed to complete the scheduled season.

[e] Catches count towards coho quota for the area south of Cape Falcon but the fishery does not close when the quota is reached. Any portion of the recreational quota not needed to complete scheduled recreational seasons will be transferred to the troll fishery on or about August 1.

[f] Description of Conservation Zones: Conservation Zone 3 is the ocean area surrounding the Klamath River mouth bounded on the north by 41°38'48" N. latitude (approximately 6 nautical miles north of the Klamath River mouth), on the west by 124°23'00" W. longitude (approximately 12 miles from shore), and on the south by 41°26'48" N. latitude (approximately six nautical miles south of Klamath River mouth).

TABLE 3.—TREATY INDIAN 1987 OCEAN SALMON TROLL MANAGEMENT MEASURES UNDER COUNCIL OPTIONS

[Note: Footnotes to this table contain important additional restrictions which must be followed for lawful participation in the fishing]

Tribe	Boundaries [a]	Open seasons	Species	Minimum lengths		Special restrictions by area
				Chinook	Coho	
Makah	That portion of the Fishery Management Area north of 48°02'15" N. latitude (Norwegian Memorial) and east of 125°44'00" W. longitude.	May 1 to earlier of June 22 or chinook quota [c].	All salmon except coho.	[b]26"		Barbless hooks, except that hooks used with bait and plugs may be barbed. No more than 8 fixed lines per boat, or no more than 4 hand-held lines per person.
		June 23 to earlier of Sep. 30 or chinook or coho quota [c].	All salmon	[b]26"	[b]16"	Barbless hooks, except that hooks used with bait and plugs may be barbed. No more than 8 fixed lines per boat, or no more than 4 hand-held lines per person.
Quileute	That portion of the Fishery Management Area between 48°07'36" N. latitude (Sand Point) and 47°31'42" N. latitude (Queets River) and east of 125°44'00" W. longitude.	May 1 to earliest of June 22 or chinook quota [c].	All salmon except coho.	26"		Barbless hoods, except that hooks used with bait and plugs may be barbed. No more than 8 lines per boat.[d]
		June 23 to earliest of Sept. 30 or chinook or coho quota [c].	All salmon	26"	16"	Barbless hooks, except that hooks used with bait and plugs may be barbed. No more than 8 lines per boat.[d]
Hoh	That portion of the Fishery Management Area between 47°54'18" N. latitude.	May 1 to earlier of June 22 or chinook quota [c].	All salmon except coho.	26"		Barbless hooks, except that hooks used with bait and plugs may be barbed. No more than 8 lines per boat.[d]

TABLE 3.—TREATY INDIAN 1987 OCEAN SALMON TROLL MANAGEMENT MEASURES UNDER COUNCIL OPTIONS—Continued

[Note: Footnotes to this table contain important additional restrictions which must be followed for lawful participation in the fishing]

Tribe	Boundaries [a]	Open seasons	Species	Minimum lengths		Special restrictions by area
				Chinook	Coho	
	(Quillayute River) and 47°21'00" N. latitude (Quinault River) and east of 125°44'00" W. longitude.	June 23 to earliest of Sept. 30 or chinook or coho quota [c].	All salmon	26"	16"	Barbless hooks, except that hooks used with bait and plugs may be barbed. No more than 8 lines per boat. [d]
Quinault	That portion of the Fishery Management Area between 47°40'06" N. latitude.	May 1 to earlier of June 22 or chinook quota [c].	All salmon except coho.	26"		Barbless hooks, except that hooks used with bait and plugs may be barbed. No more than 8 lines per boat.[d]
	(Destruction Island) and 46°53'18" N. latitude (Point Chehalis) and east of 125°44'00" W. longitude.	June 23 to earliest of Sept. 30 or chinook or coho quota [c].	All salmon	26"	16"	Barbless hooks, except that hooks used with bait and plugs may be barbed. No more than 8 lines per boat.[d]

[a] All boundaries may be changed to include such areas as may hereafter be authorized for the tribe's treaty fishery by a federal court.
[b] There are no minimum length restrictions for salmon taken for ceremonial and subsistence purposes by the Makah tribe. For the Quileute, Hoh, and Quinault tribes, not more than two chinook salmon between the lengths of 24 and 26 inches per day may be retained.
[c] The overall ocean quotas for the Washington coastal tribes are: 15,800 chinook and 86,000 coho salmon. These quotas include troll catches by the Klallam and Makah tribes in Area 4B.
[d] The areas within 6-mile radiuses of the mouths of the Queets River (47°31'42" N. latitude) and the Hoh River (47°45'12" N. latitude) are closed to commercial fishing. A closure within 2 miles of the mouth of the Quinault River (47°21'00" N. latitude) may be enacted by the tribe and/or the State of Washington and will not adversely affect the Secretary's management regime.

Gear Definitions and Restrictions

In addition to gear restrictions shown in Tables 1, 2, and 3, the following gear definitions and restrictions will be in effect until modified, superseded or rescinded.

Troll Fishing Gear

Troll fishing gear for the Fishery Management Area (FMA) is defined as one or more lines that drag hooks behind a moving fishing vessel.

In that portion of the FMA off Oregon and Washington, the line or lines must be affixed to the vessel and must not be disengaged from the vessel at any time during the fishing operation.

Recreational Fishing Gear

Recreational fishing gear for the FMA is defined as angling tackle consisting of a line with not more than one artificial lure or natural bait attached.

In that portion of the FMA off Oregon and Washington, the line must be attached to a rod and reel held by hand or closely attended; the rod and reel must be held by hand while playing a hooked fish. No person may use more than one rod and line while fishing off Oregon or Washington. Off Oregon, not more than three hooks can be used. There is no limit to the number of hooks that can be used off Washington and California.

In that portion of the FMA of California, the line must be attached to a rod and reel held by hand or closely attended. Weights directly attached to a line may not exceed four (4) pounds. There is no limit to the number of lines that a person may use while recreationally fishing off California.

Geographical Landmarks

Geographical landmarks referenced in this notice are at the following locations:

Umatilla-Tatoosh Line.	A straight line drawn southerly from the Cape Flattery light (48°23'50" N. latitude) to Umatilla Buoy (48°11'20" N. latitude).
Carroll Island	48°00'18" N. lat.
Queets River	47°31'42" N. lat.
Leadbetter Point	46°38'10" N. lat.
Klipsan Beach	46°28'12" N. lat.
Red Buoy Line	Seaward along the south jetty of the Columbia River to the visible tip of the jetty and then to Buoy #2SJ, then southwesterly to Buoy #4, continuing southwesterly to Buoy #2, and then to the Columbia River Buoy, then due west along 46°11'6" N. latitude.
Cape Falcon	45°46'00" N. lat.
Cascade Head	45°03'50" N. lat.
Cape Perpetua	44°17'30" N. lat.
Cape Arago Light	43°20'50" N. lat.
Cape Blanco	42°50'20" N. lat.
Humbug Mountain	42°40'30" N. lat.
Sisters Rocks	42°35'45" N. lat.
Mack Arch	42°13'40" N. lat.
Chetco Point	42°02'35" N. lat.
Trinidad Head	41°03'30" N. lat.
South Jetty, Humboldt Bay.	40°45'30" N. lat.
Punta Gorda	40°15'30" N. lat.
Point Delgada	40°01'24" N. lat.
Point Arena	38°57'30" N. lat.

Classification

The 1987 management measures established under the provisions of the FMP and its implementing regulations are based on the most recent data available. The aggregate data upon which the measures are based are available for public inspection at the offices of the Regional Directors (see ADDRESSES) during business hours until the end of the comment period.

These actions are taken under 50 CFR Part 661, are in compliance with Executive Order 12291, and are covered by the Regulatory Flexibility Analysis (RFA), and Final Supplemental Environmental Impact Statement (SEIS), prepared for the framework amendment to the FMP. These actions impose no information collection requirements under the Paperwork Reduction Act.

Section 661.23 of the ocean salmon regulations states that the Secretary will publish a notice establishing management measures each year and will invite public comments prior to its effective date. If the Secretary

determines, for good cause, that a notice must be issued without affording a prior opportunity for public comment, comments on the notice will be received by the Secretary for a period of 15 days after the effective date of the notice.

Because of the depressed status of some salmon stocks, and the need to reduce harvest in some areas or to establish different opening dates than those in the 1986 regulations for some fisheries, the Secretary has determined that time does not permit a comment period prior to the date the management measures must be in effect. Comments will be accepted for 15 days after the effective date of this notice.

The public has had opportunity to comment on these management measures during the process of their development. The public participated in the March and April Council, Team, and Advisor meetings, and in public hearings held in Washington, Oregon, and California in late March and early April, which generated the management actions recommended by the Council and approved by the Secretary. Written public comments were invited by the Council between the March and April Council meetings.

Authority: 16 U.S.C. 1801 *et seq.*)

List of Subjects in 50 CFR Part 661

Fisheries, Fishing, Indians.

Dated: May 1, 1987.

William E. Evans,

Assistant Administrator For Fisheries, National Marine Fisheries Service.

[FR Doc. 87-10247 Filed 5-1-87; 2:59 pm]

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federal register

Wednesday
May 6, 1987

Part VII

Department of Transportation

Federal Aviation Administration

14 CFR Parts 43, 61, and 91
Preflight Assembly of Gliders and Balloons; Final Rule

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Parts 43, 61, and 91

[Docket No. 25011; Amdt. Nos. 43-27, 61-79, and 91-200]

Preflight Assembly of Gliders and Balloons

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The purpose of these amendments is to discontinue classifying glider and balloon assembly as preventive maintenance, except in certain circumstances; add training requirements for pilots in preflight assembly of gliders and balloons; and add preflight assembly and post assembly inspections to the preflight responsibilities for glider and balloon pilots. The amendments are needed to ensure the continued assignment of responsibilities for preflight assembly and inspection of gliders and balloons while simultaneously reducing the recording burden on the public.

EFFECTIVE DATE: June 5, 1987.

FOR FURTHER INFORMATION CONTACT: Mr. George Johnson, Project Development Branch (AFS-360), Office of Flight Standards, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, DC 20591; Telephone (202) 267-3798.

SUPPLEMENTARY INFORMATION:

Background

Part 43, Appendix A, paragraph (c), classifies the installation of certain glider wings as preventive maintenance. Paragraph (c) was amended (Amendment No. 43-23; 47 FR 41076; September 16, 1982) to add preflight assembly of balloons to the list of preventive maintenance.

Prior to amendment, balloon assembly classification was in dispute. Some persons considered it maintenance while others viewed it as an operational function. Classification as preventive maintenance in Amendment No. 43-12 (34 FR 14423; September 16, 1969) was intended to unify these viewpoints, utilizing the concept used successfully with gliders for many years. Public comment invited prior to amendment brought only favorable comment.

Amendment No. 43-23 simultaneously amended § 43.9 to require the performance and approval for return to service of preventive maintenance to be recorded in the aircraft records. Shortly after the amendment became effective, the FAA received the first of what became numerous complaints about the new recordkeeping requirement from glider and balloon operators and their associations. In response, the FAA agreed to review the matter.

A review of the situation revealed that, while § 43.9, as amended, requires preventive maintenance to be recorded, § 91.173(b)(1) requires the record to be retained only until the work is repeated or superseded by other work or for 1 year after the work is performed (i.e., until the glider or balloon is reassembled for the next flight). The requirements of §§ 43.9 and 91.173(b)(1) are unnecessarily burdensome for gliders and balloons because they are disassembled and assembled so frequently.

The pilot in command is, by virtue of § 91.29, responsible for proper assembly of the glider or balloon, whether or not the assembly operation is recorded. Further, the pilot in command has typically performed the assembly and disassembly of gliders and balloons without recording the work for many years. FAA records of accidents and incidents do not indicate that improper assembly has played a significant role in glider or balloon accidents. Therefore, the FAA has decided to classify the installation of glider wings and tail surfaces, specifically designed for quick disassembly and assembly; the installation of balloon baskets and burners, specifically designed for quick removal; and the assembly of gliders and balloons as operational functions. To ensure that pilots recognize their responsibilities and are competent to perform the assembly and preflight inspection properly, Part 61 of the FAR is amended to reference gliders and balloons in the flight proficiency requirements of §§ 61.107 and 61.127.

The type certificate data of some balloons permit multiple models of balloon baskets to be used on some envelopes. The interchange of these components is as simple to perform as a normal preflight assembly. The additional step of determining the eligibility for interchange is similar to the pilot-in-command process of determining that an aircraft is properly equipped for the flight being conducted. The FAA has determined, however, that when component interchange is involved, preflight assembly will continue to be classified as preventive maintenance. The recording requirements associated with preventive maintenance are necessary to provide record continuity for interchanged components so that compliance with required inspections, airworthiness directives, etc., can be determined.

On June 6, 1986, the FAA issued Notice of Proposed Rulemaking No. 86-8 (51 FR 21722; June 13, 1986). The notice proposed to amend the regulations to discontinue classifying glider and balloon assembly as preventive maintenance, add training requirements for pilots in preflight assembly of gliders and balloons, and add preflight assembly and post-assembly inspections to the preflight responsibilities for glider and balloon pilots.

Discussion of Comments

Over 150 individual public comments were submitted in response to Notice 86-8. While the great majority of the comments are in agreement with the proposal, three commenters suggest changes that are beyond the scope of this rulemaking. Three commenters suggest that the rule be expanded to include assembly/disassembly of additional balloon components. While this recommendation merits further agency examination for possible future rulemaking, it is considered outside the scope of Notice 86-8 and thus is not adopted herein.

One commenter questions the FAA's use of the word "mooring" in proposed §§ 61.107(f)(1) and 61.127(f)(1). The commenter suggests the use of the word "tethering." The FAA agrees with the comment, and the amendment has been changed accordingly.

Paperwork Reduction Act

Information collection requirements in this regulation (§ 43.9) have been approved by the Office of Management and Budget under the provisions of the Paperwork Reduction Act of 1980 (Pub. L. 96-511) and have been assigned OMB Control Number 2120-0020.

Regulatory Evaluation

The FAA is amending Parts 43 and 61 to discontinue classifying glider and balloon assembly as preventive maintenance, except in certain circumstances; add training requirements for pilots in preflight assembly of gliders and balloons; and add preflight assembly and post assembly inspections to the preflight responsibilities for glider and balloon pilots. The editorial revisions to Part 91 are intended to make the amendments to Parts 43 and 61 consistent with the maintenance record requirements of Part 91.

The primary objective of the final rule is to ensure the continued assignment of responsibilities for preflight assembly and post assembly inspection of gliders and balloons and at the same time

reduce the recordkeeping burden on the public.

The principal area of interest in the rule is the change affecting the installation of glider wings and tail surfaces, specifically designed for quick disassembly and assembly by pilots, and the installation of balloon baskets and burners, specifically designed for quick removal by the pilot. The deletion of these requirements from the list of items classified as preventive maintenance would relieve glider and balloon operators from the burden of complying with the recording requirements of § 43.9 for the preflight assembly of gliders and balloons. FAA records of accidents and incidents indicate that improper assembly has not played a significant role in glider or balloon accidents. In this context, these amendments would not derogate safety and would not impose costs. The FAA, therefore, finds that these amendments would involve only unquantifiable benefits since glider and balloon operators would no longer be required to make the maintenance record entries specified by § 43.9.

The FAA has determined that this regulation will not affect international trade, nor is it expected to have a significant economic impact on a substantial number of small entities since there are no costs associated with these amendments.

Conclusion

This document relieves a substantial segment of the aviation community of a cost burden and does not impose any additional burden on any person. Therefore, the Federal Aviation Administration has determined that this document involves a regulation which is not a major rule under Executive Order 12291 or a significant regulation under the DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979). A copy of the final evaluation prepared for this action is contained in the regulatory docket. A copy of it may be obtained by contacting the person identified under the caption **"FOR FURTHER INFORMATION CONTACT."** For the reasons stated earlier, it has been determined further that the amendment 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

14 CFR Part 43

Maintenance, Preventive maintenance, Safety, Airmen, Aircraft, Inspection, Approvals, Performance rules, Recordkeeping.

14 CFR Part 61

Private pilots, Flight instructors, Certification, Certificates, Aviation safety, Training.

14 CFR Part 91

Aviation Safety, Safety, Aircraft, Aircraft pilots, Pilots, Standards.

Adoption of the Amendment

Accordingly, Parts 43, 61, 91 of the Federal Aviation Regulations (14 CFR Parts 43, 61, 91) are amended as follows:

PART 43—MAINTENANCE, PREVENTIVE MAINTENANCE, REBUILDING, AND ALTERATION

1. The authority citation for Part 43 continues to read as follows:

Authority: 49 U.S.C. 1354, 1421 through 1430; 49 U.S.C.106(g) (Revised, Pub. L. 97–449, January 12, 1983).

Appendix A—Major Alterations, Major Repairs, and Preventive Maintenance

2. Appendix A is amended by removing paragraph (c)(25); by redesignating paragraphs (c)(26) through (c)(29) as paragraphs (c)(25) through (c)(28), respectively; and by revising newly redesignated paragraph (c)(27) to read as follows:

* * * * *

(27) The interchange of balloon baskets and burners on envelopes when the basket or burner is designated as interchangeable in the balloon type certificate data and the baskets and burners are specifically designed for quick removal and installation.

* * * * *

PART 61—CERTIFICATION: PILOTS AND FLIGHT INSTRUCTORS

3. The authority citation for Part 61 continues to read as follows:

Authority: 49 U.S.C. 1354(a), 1355, 1421, 1422, and 1427; 49 U.S.C. 106(g) (Revised, Pub. L. 97–449, January 12, 1983).

4. Section 61.107 is amended by revising paragraphs (d)(1) and (f)(1) to read as follows:

§ 61.107 Flight proficiency.

* * * * *

(d) *In gliders.* (1) Preflight operation, including the installation of wings and tail surfaces specifically designed for quick removal and installation by pilots, and line inspection.

* * * * *

(f) *In free balloons.* (1) Rigging and tethering, including the installation of baskets and burners specifically designed for quick removal or installation by a pilot; and the interchange of baskets or burners, when provided for in the type certificate data, classified as preventive maintenance, and subject to the recording requirements of § 43.9 of this chapter.

* * * * *

5. Section 61.127 is amended by revising paragraph (f)(1) to read as follows:

§ 61.127 Flight proficiency.

* * * * *

(f) *Free balloons.* (1) Assembly of basket and burner to the envelope, and rigging, inflating, and tethering of a free balloon.

* * * * *

PART 91—GENERAL OPERATING AND FLIGHT RULES

6. The authority citation for Part 91 continues to read as follows:

Authority: 49 U.S.C. 1301(7), 1303, 1344, 1348, 1352 through 1355, 1401, 1421 through 1431, 1471, 1472, 1502, 1522, and 2121 through 2125; Articles 12, 29, 31, and 32(a) of the Convention on International Civil Aviation (61 Stat. 1180); 42 U.S.C. 4321 et seq.; E.O. 11514; 49 U.S.C. 106(g) (Revised, Pub. L. 97–449, January 12, 1983).

§ 91.173 [Amended]

7. Section 91.173(a)(1) is amended by inserting the phrase, "preventive maintenance," after the word "maintenance".

Issued in Washington, DC, on April 28, 1987.

Donald D. Engen,

Administrator.

[FR Doc. 87–10226 Filed 5–5–87; 8:45 am]

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Wednesday
May 6, 1987

Part VIII

Department of Defense
General Services Administration
National Aeronautics and Space Administration

48 CFR Parts 5, 6, and 35

Federal Acquisition Regulation (FAR); Research and Development Contracting Procedures; Proposed Rule

DEPARTMENT OF DEFENSE

GENERAL SERVICES ADMINISTRATION

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

48 CFR Parts 5, 6, and 35

Federal Acquisition Regulation (FAR); Research and Development Contracting Procedures

AGENCIES: Department of Defense (DoD), General Services Administration (GSA), and National Aeronautics and Space Administration. (NASA).

ACTION: Proposed rule.

SUMMARY: The Civilian Agency Acquisition Council and the Defense Regulatory Council are considering revisions to FAR 5.202, 6.003, 6.302, 35.001, and 35.016 pertaining to research and development contracting procedures.

DATE: Comments should be submitted to the FAR Secretariat at the address shown below on or before July 6, 1987, to be considered in the formulation of a final rule.

ADDRESS: Interested parties should submit written comments to: General Services Administration, FAR Secretariat (VRS), 18th & F Streets NW., Room 4041, Washington, DC 20405.

Please cite FAR Case 87–12 in all correspondence related to this issue.

FOR FURTHER INFORMATION CONTACT: Ms. Margaret A. Willis, FAR Secretariat, Telephone (202) 523–4755.

SUPPLEMENTARY INFORMATION:

A. Background

The proposed rule specifies and clarifies procedures to be followed by agencies in awarding contracts based upon receipt of unsolicited research proposals by revising guidance contained within FAR Parts 5 and 6. These revisions are based, in part, upon clarifying amendments made to 10 U.S.C. 2304(d)(1)(A) by section 923(b), Title IX, Pub. L. 99–500, enacted on October 18, 1986. Additionally, the proposed rule would amend FAR Part 35 and specify procedures to be followed by agencies in soliciting and awarding contracts for basic research pursuant to general solicitations (broad agency announcements) as authorized by the Competition in Contracting Act of 1984, Pub. L. 98–369, and FAR 6.102(d)(2).

B. Regulatory Flexibility Act.

The proposed rule is not expected to have a significant economic impact upon a substantial number of small entities within the meaning of the Regulatory Flexibility Act of 1980, 5 U.S.C. 601, *et seq.*, as the rule is directed toward achieving uniformity in internal procedures used by Federal agencies in soliciting and awarding contracts for basic research, and in awarding contracts based upon receipt of unsolicited research proposals. Uniform procedures will benefit small entities providing research services to multiple Federal agencies. An Initial Regulatory Flexibility Analysis has been performed and submitted to the Chief Counsel for Advocacy of the Small Business Administration. Comments are invited from small entities and other interested parties.

C. Paperwork Reduction Act.

The Paperwork Reduction Act (Pub. L. 96–511) does not apply because the proposed rule does not impose any additional recordkeeping or information collection requirements or collection of information from offerors, contractors, or members of the public which require the approval of OMB under 44 U.S.C. 3501, *et seq.*

List of Subjects in 48 CFR Parts 5, 6, and 35

Government procurement.

Dated: April 29, 1987.

Harry S. Rosinski,

Deputy Director, Office of Federal Acquisition and Regulatory Policy.

Therefore, it is proposed that 48 CFR Parts 5, 6, and 35 be amended as set forth below:

1. The authority citation for Parts 5, 6, and 35 continues to read as follows:

Authority: 40 U.S.C. 486(c); 10 U.S.C. Chapter 137; and 42 U.S.C. 2473(c).

PART 5—PUBLICIZING CONTRACT ACTIONS

2. Section 5.202 is amended by revising paragraph (a)(8) to read as follows:

§ 5.202 Exceptions.

(a) * * *

(8) The contract action results from the acceptance of an unsolicited research proposal that demonstrates a unique and innovative concept (see 6.003) and publication of any notice complying with 5.207 would improperly disclose the originality of thought or innovativeness of the proposed research, or would disclose proprietary information associated with the proposal. This exception does not apply if the contract action results from an unsolicited research proposal and acceptance is based solely upon the unique capability of the source to perform the particular research services proposed (see 6.302–1(a)(2)(i)).

* * * * *

PART 6—COMPETITION REQUIREMENTS

3. Section 6.003 is amended by adding in alphabetical order the definition "Unique and innovative concept" to read as follows:

§ 6.003 Definitions.

* * * * *

"Unique and innovative concept," when used relative to an unsolicited research proposal, means that, in the opinion and to the knowledge of the Government evaluator, the meritorious proposal is the product of original thinking submitted in confidence by one source; contains new novel or changed concepts, approaches, or methods; was not submitted previously by another; and, is not otherwise available within the Federal Government. In this context, the term does not mean that the source has the sole capability of performing the research.

4. Section 6–302–1 is amended by revising paragraph (a)(2)(i) to read as follows:

§ 6.302–1 Only one responsible source and no other supplies or services will satisfy agency requirements.

(a) * * *

(2) * * *

(i) Supplies or services may be considered to be available from only one source if the source has submitted an unsolicited research proposal that (A) demonstrates a unique and innovative concept, or, demonstrates a unique capability of the source to provide the particular research services proposed; (B) offers a concept or services not otherwise available to the Government; and, (C) does not resemble the substance of a pending competitive acquisition. (10 U.S.C. 2304(d)(1)(A) and 41 U.S.C. 253(d)(1)(A)).

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PART 35—RESEARCH AND DEVELOPMENT CONTRACTING

§ 35.001 [Amended]

5. Section 35.001 is amended by adding in alphabetical order the definition "Broad agency announcement" to read as follows:

* * * * *

"Broad agency announcement" means a general announcement of an agency's research interest including criteria for selecting proposals and soliciting the participation of all offerors capable of

satisfying the Government's needs (see 6.102(d)(2)).

* * * * *

6. Section 35.016 is added to read as follows:

§ 35.016 Broad agency announcement.

(a) *General.* This paragraph prescribes procedures for the use of the broad agency announcement (BAA) with Peer or Scientific Review (see 6.102(d)(2)) for the acquisition of basic and applied research and that part of development not related to the development of a specific system or hardware procurement. BAAs may be used by agencies to fulfill their requirements for scientific study and experimentation directed toward advancing the state-of-the-art or increasing knowledge or understanding rather than focusing on a specific system or hardware solution. The BAA technique shall only be used when meaningful proposals with varying technical/scientific approaches can be reasonably anticipated.

(b) The BAA, together with any supporting documents, shall:

(1) Describe the agency's research interest, either for an individual program requirement or for broadly defined areas of interest covering the full range of the agency's requirements;

(2) Describe the criteria for selecting the proposals, their relative importance and the method of evaluation;

(3) Specify the period of time during which proposals submitted in response to the BAA will be accepted; and

(4) Contain instructions for the preparation and submission of proposals.

(c) The availability of the BAA shall be published in the Commerce Business Daily and, if authorized pursuant to Subpart 5.5, may also be published in noted scientific, technical, or engineering periodicals. The notice shall be published no less frequently than annually.

(d) Proposals received as a result of the BAA shall be evaluated in accordance with evaluation criteria specified therein through a peer or scientific review process. Written evaluation reports on individual proposals will be necessary but proposals need not be evaluated against each other since they are not submitted in accordance with a common work statement.

(e) The primary basis for selecting proposals for acceptance shall be technical, importance to agency programs, and fund availability. Cost realism and reasonableness shall also be considered to the extent appropriate.

(f) Once a proposal is received, communication between the agency's scientific or engineering personnel and the principal investigator is permitted for clarification purposes only.

(g) Synopsis under Subpart 5.2, Synopses of Proposed Contract Actions, of individual contract actions based upon proposals received under the BAA is not required. The notice published pursuant to subparagraph (c), of this section, fulfills the synopsis requirement.

[FR Doc. 87-10336 Filed 5-5-87; 8:45 am]

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